CLASS VI INJECTION WELL:
QUALITY ASSURANCE AND SURVEILLANCE PLAN
40 CFR 146.90 (k)

Plan Revision Date:

July 2023

Prepared for:

River Parish Sequestration – RPN 4

Iberville Parish, Louisiana

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[redacted]

Title and Approval Sheet

This Quality Assurance and Surveillance Plan is approved for use and implementation at the River Parish Sequestration Project, operated by River Parish Sequestration, LLC. The signatures below denote the approval of this document and intent to abide by the procedures outlined within it.

Signature Date

Printed Name

Title

Signature Date

Printed Name

Title

Signature Date

Printed Name

Title

Distribution List

The following project participants will receive the completed Quality Assurance and Surveillance Plan and all future updates for the duration of the project.

Contact
Title
Address
City, State, Zip
E: email
T: phone

Contact
Title
Address
City, State, Zip
E: email
T: phone

List of Acronyms/Abbreviations

AoR	Area of Review
CO_2	carbon dioxide
DAS	distributed acoustic sensing
DTS	distributed temperature sensing
EPA	Environmental Protection Agency
FID	flame ionization detector
FLIR	forward-looking infrared
GC	gas chromatography
ft	feet
hZ	hertz
LELAP	Louisiana Environmental Laboratory Accreditation Program
mg/L	milligram(s) per liter
MIT	mechanical integrity test
MVA	monitoring, verification, and accounting
NDIR	non-dispersive infrared
PNC	pulse neutron capture
ppb	parts per billion
ppm	part per million
psi	pound(s) per square inch
QA/QC	quality assurance/quality control
QASP	*Quality Assurance and Surveillance Plan*
RPS	River Parish Sequestration
RPSP	River Parish Sequestration Project
SOP	Standard Operating Procedure(s)
TCD	thermal conductivity detector
TDS	total dissolved solids
UIC	underground injection control
µg/L	microgram(s) per liter
USDW	underground source of drinking water
VSP	vertical seismic profile

A. Project Management

A.1 Project/Task Organization

A.1.a Key Individuals and Responsibilities

River Parish Sequestration, LLC, (RPS) will lead the project testing and monitoring activities with participation from several subcontractors. [redacted]

A.1.b Independence from Project Quality Assurance Manager and Data Gathering

Third parties independent and outside of the project management structure will analyze, process, or witness physical samples collected and other data gathered as part of the monitoring, verification, and accounting (MVA) program. RPS will provide a final list of vendors, subcontractors, and independent testing labs with access to the monitoring data generated through this project prior to requesting authorization to commence injection.

A.1.c QA Project Plan Responsibility

RPS will be responsible for maintaining and distributing the official, approved *Quality Assurance and Surveillance Plan* (QASP). RPS will periodically review this QASP and consult with the United States Environmental Protection Agency (EPA) and Louisiana Department of Natural Resources (LDNR) as changes are warranted.

[redacted]

A.2 Problem Definition/Background

A.2.a Reasoning

[redacted]

[redacted]

A.2.b Reasons for Initiating the Project

[redacted] The project is located in one of the most concentrated clusters of existing industrial emissions (CO_2 per square mile) in America. [redacted]

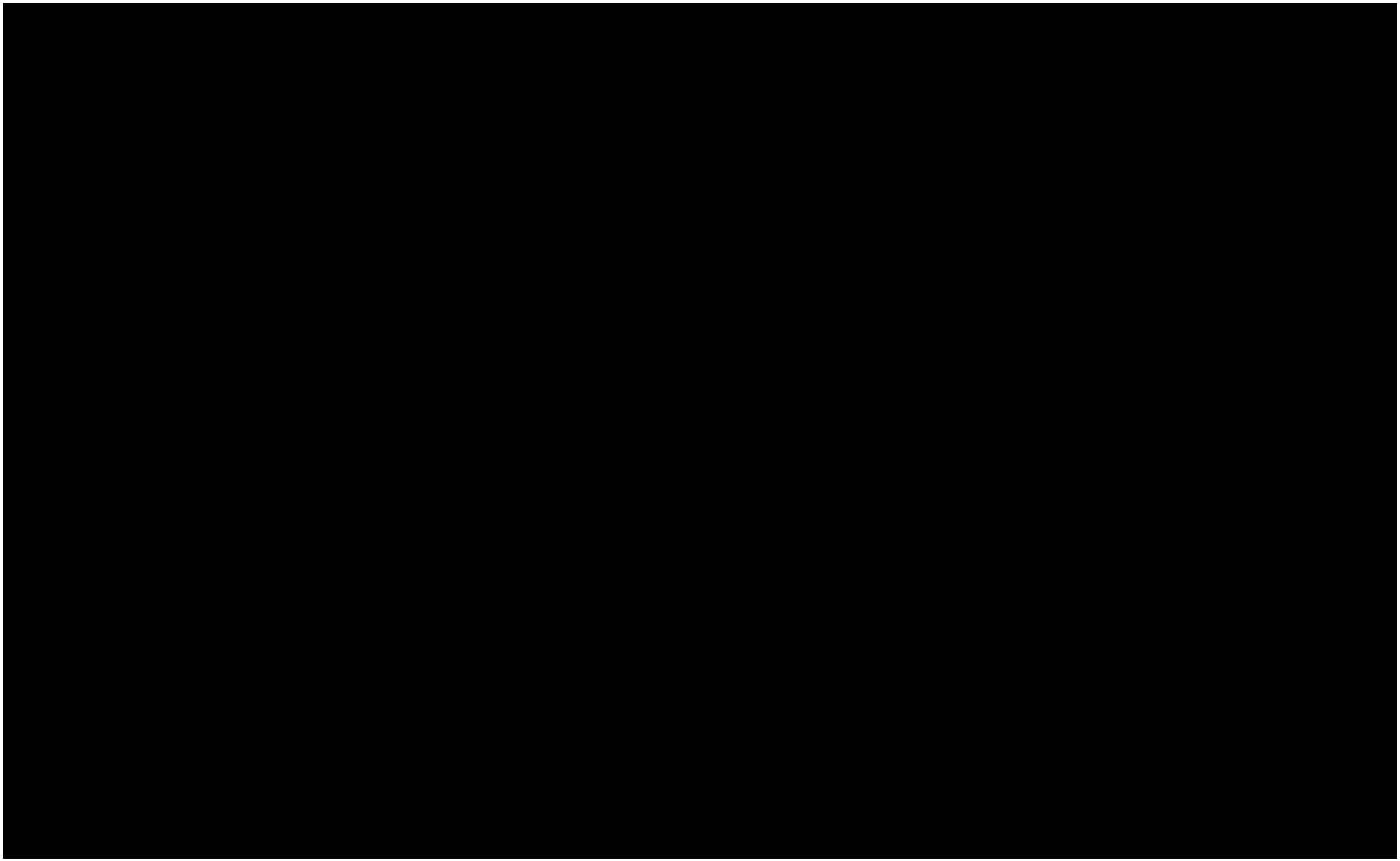
[redacted]

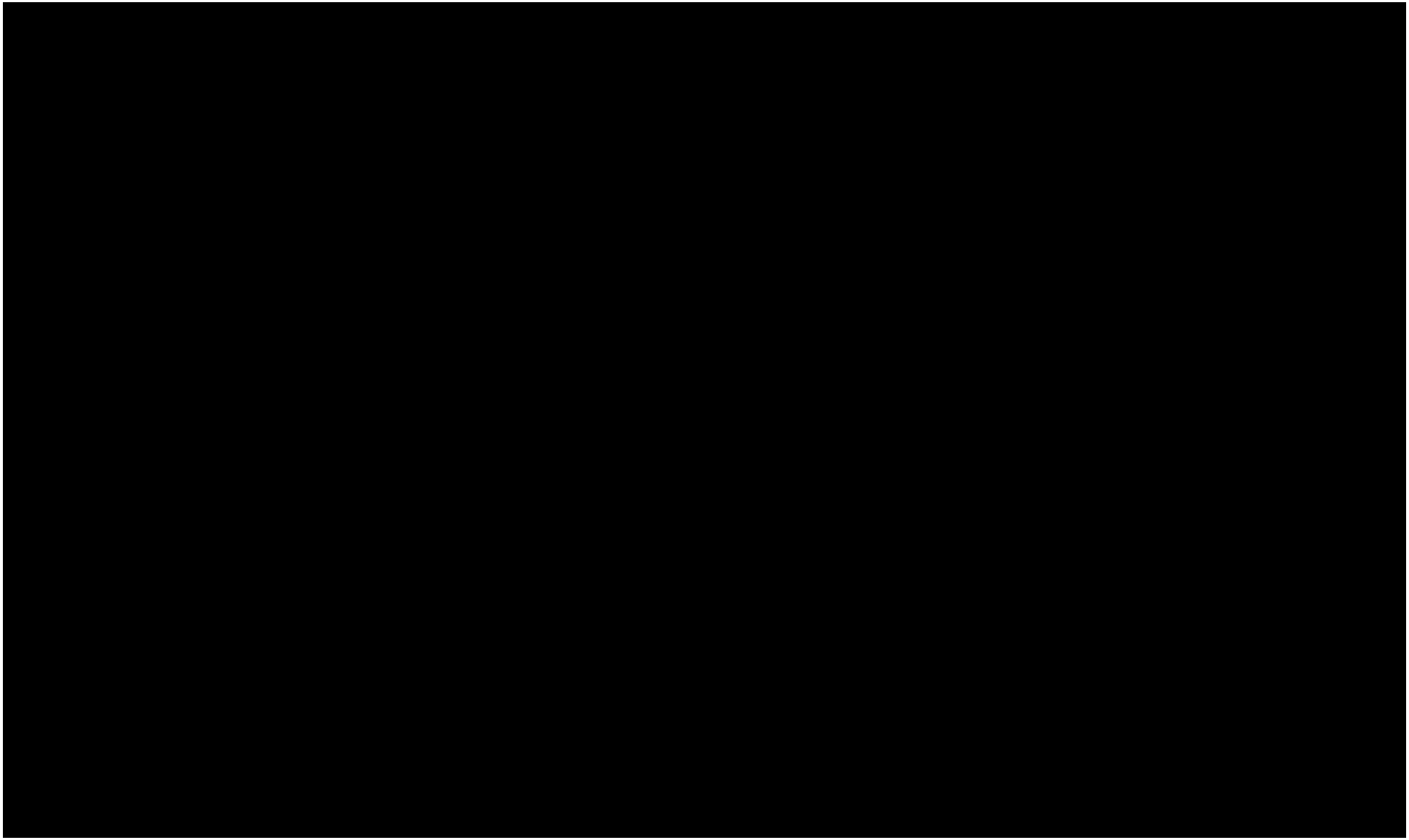
A.2.c Regulatory Information, Applicable Criteria, Action Limits

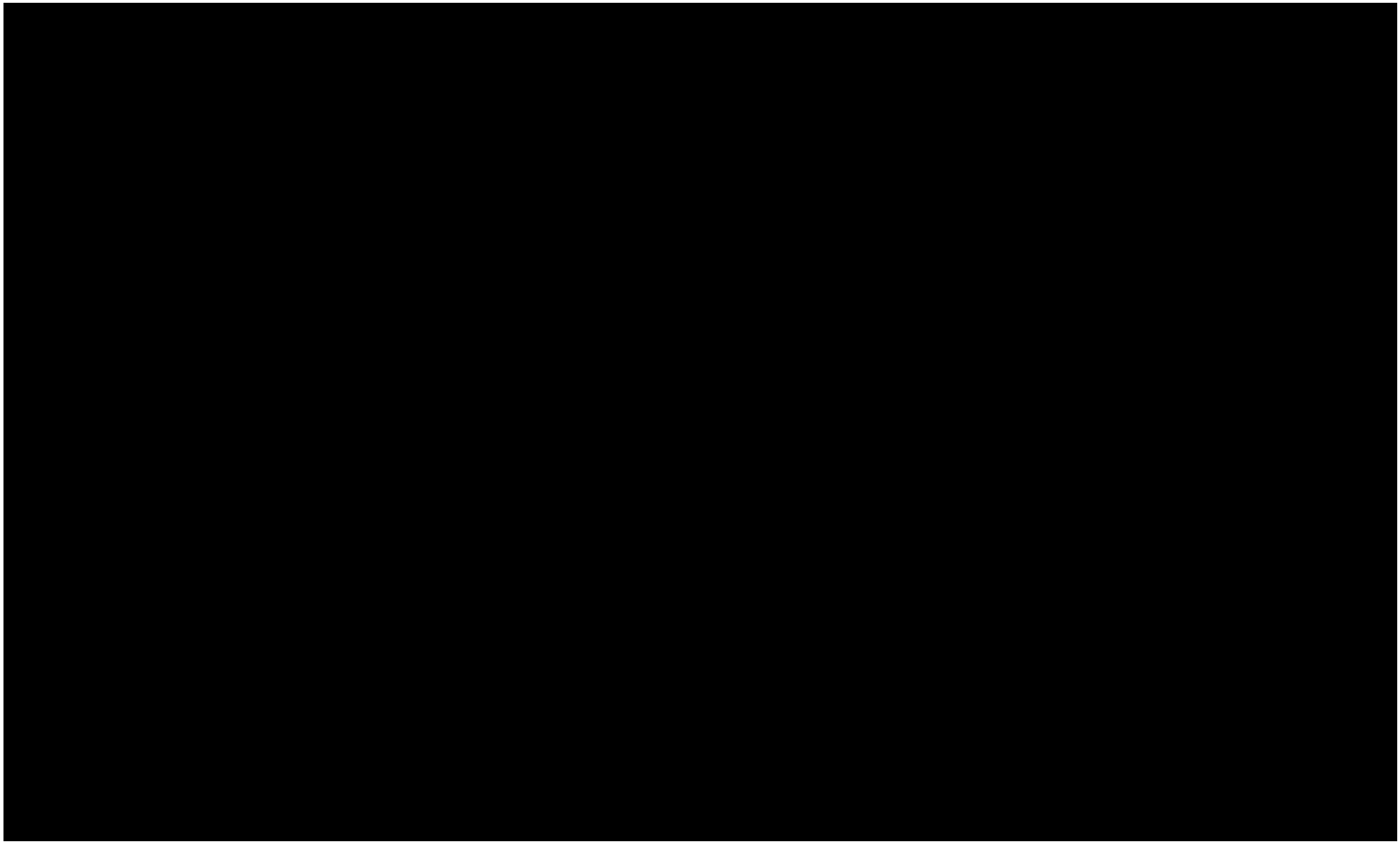
According to the Class VI rule, owners or operators of Class VI wells are responsible for assuring the following throughout a project's duration: that the injection well maintains its mechanical integrity; that USDWs are not at risk; and that fluid migration and the extent of pressure elevation are compliant with the limits outlined in the permit application. Monitoring throughout the project includes mechanical integrity tests (MITs), groundwater quality monitoring, injection well testing during operation, and tracking of the CO_2 plume and the associated pressure front. This QASP describes both the measurements that will be recorded as well as the accompanying procedures that will be followed to ensure the quality of the data is such that it can be confidently used to make decisions throughout the project.

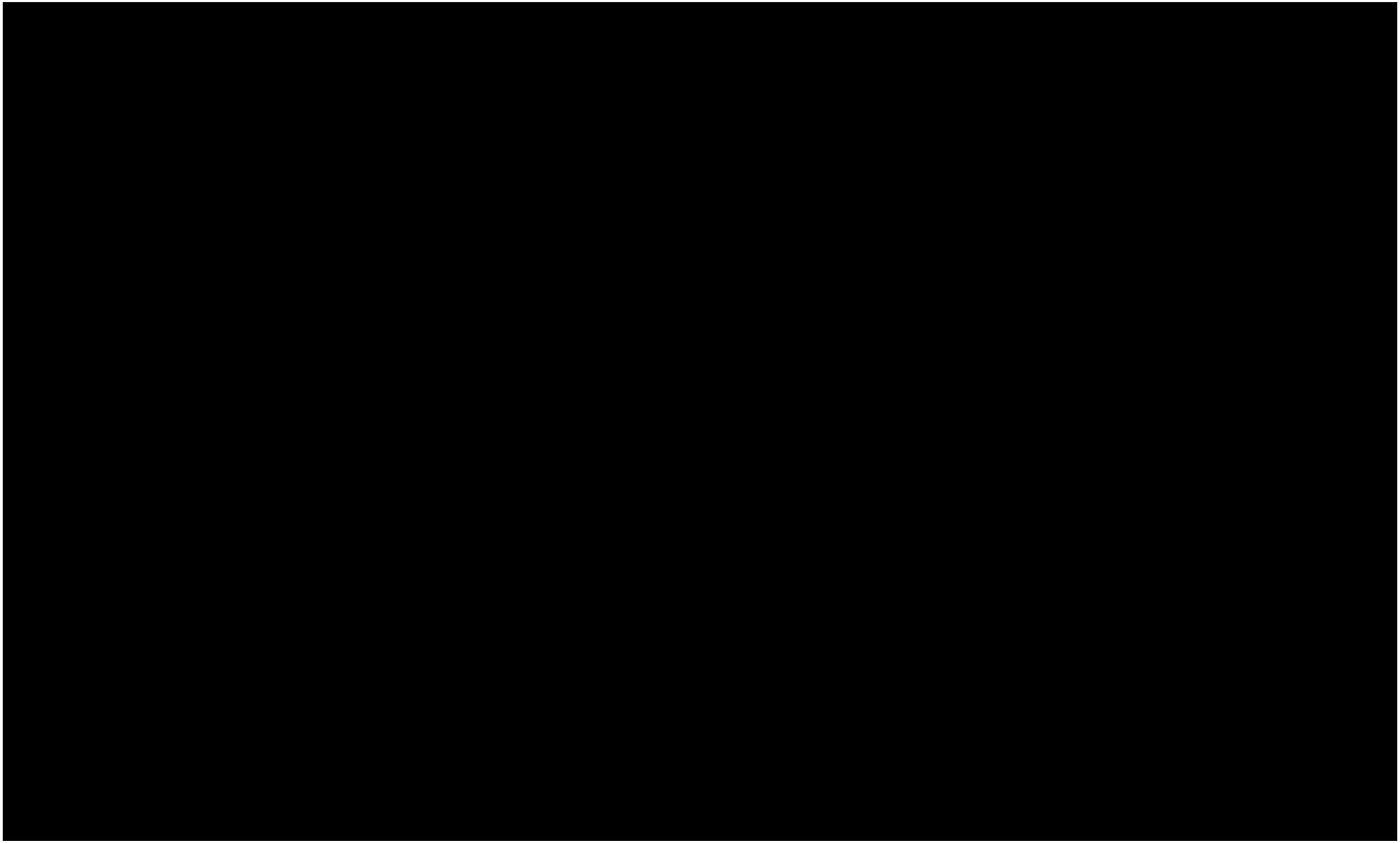
A.3 Project/Task Description.

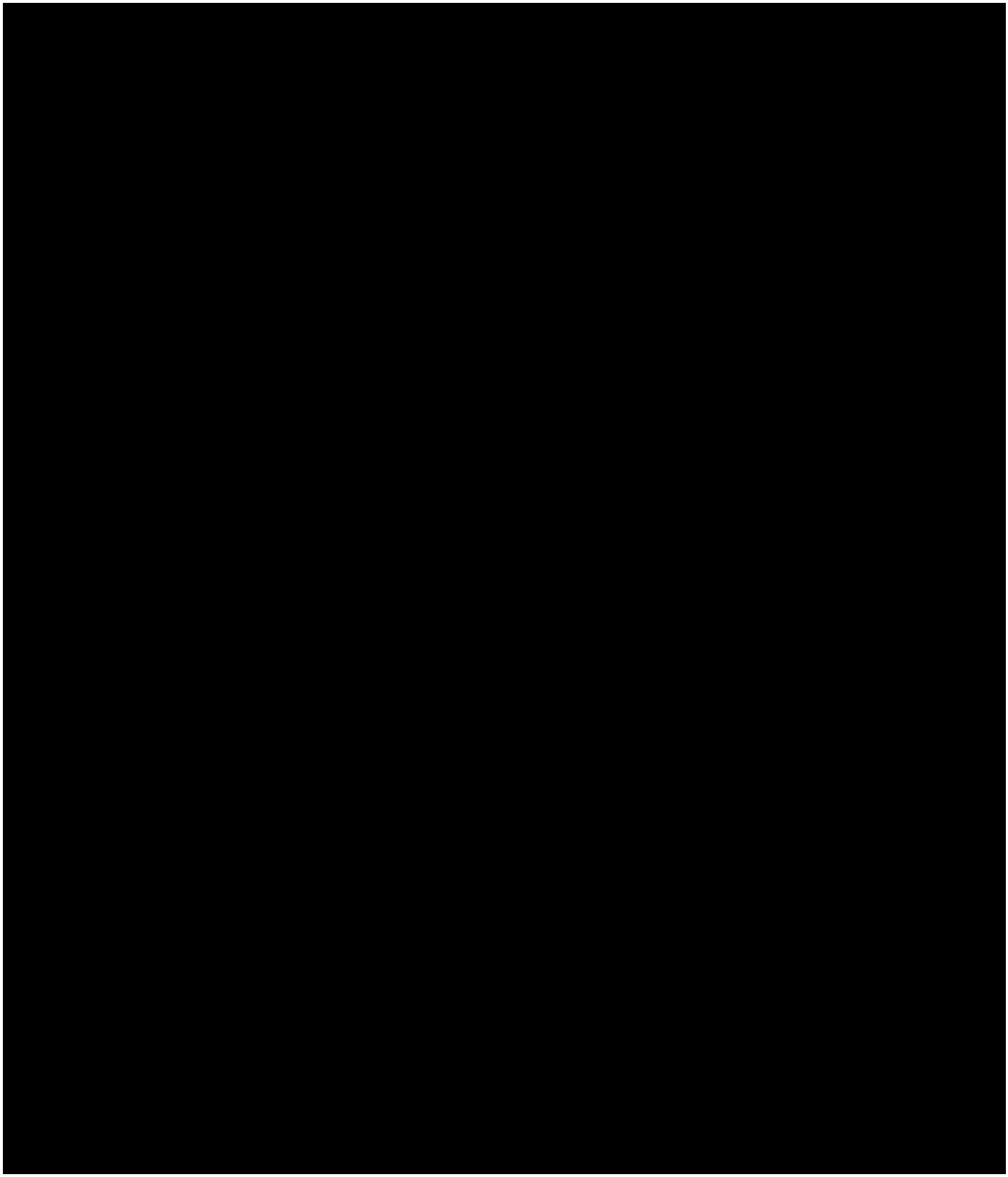
[redacted]

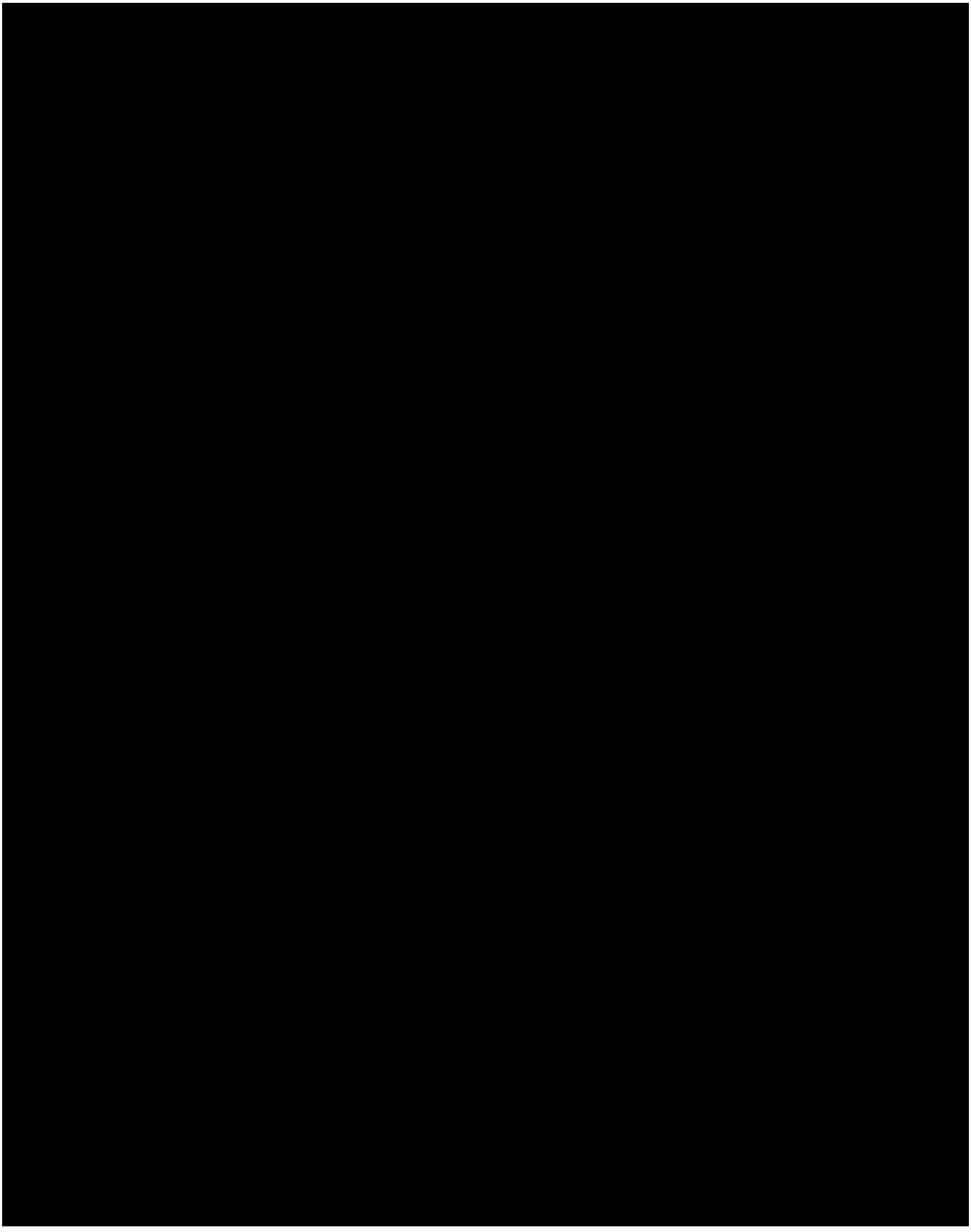












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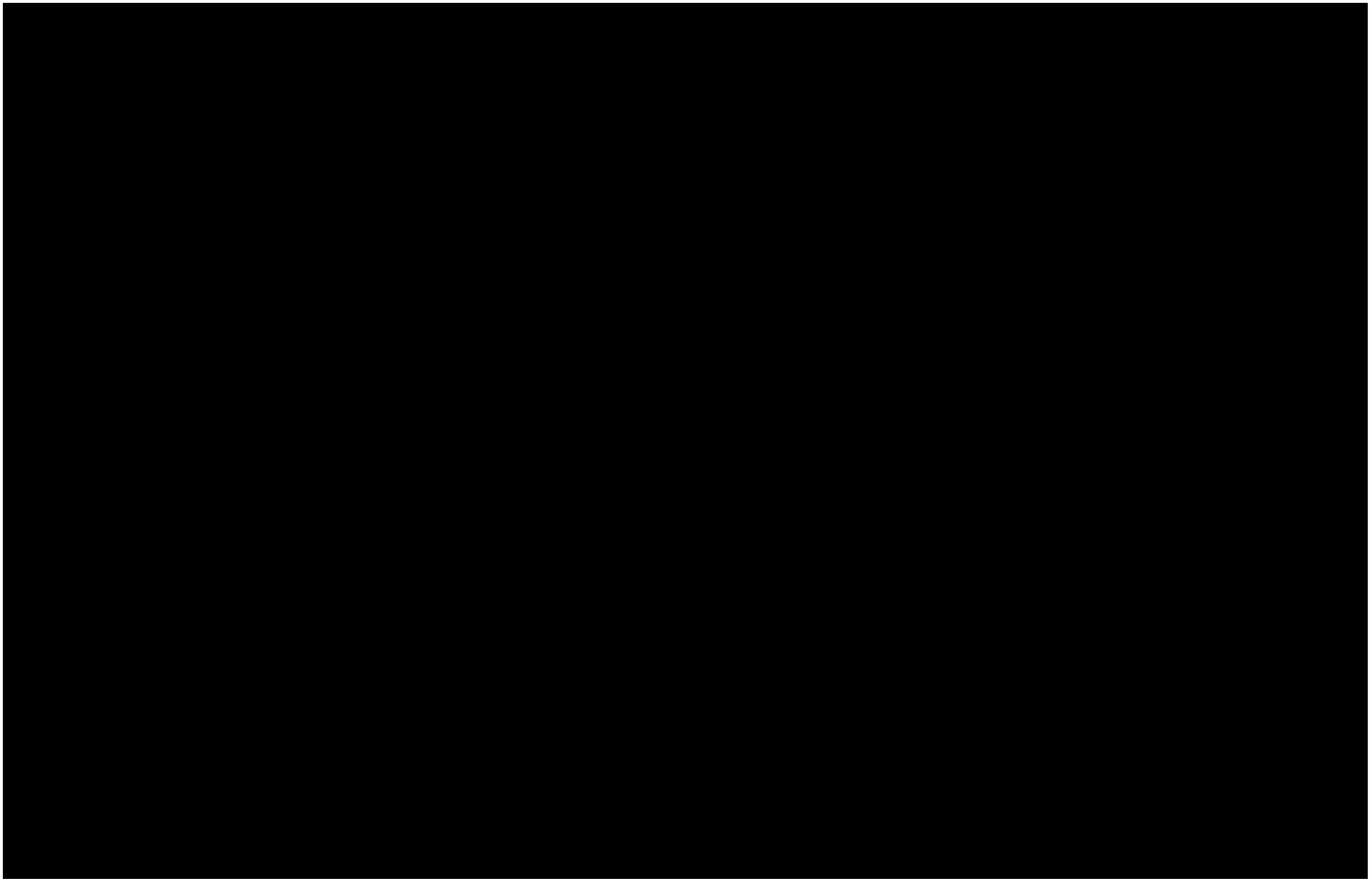

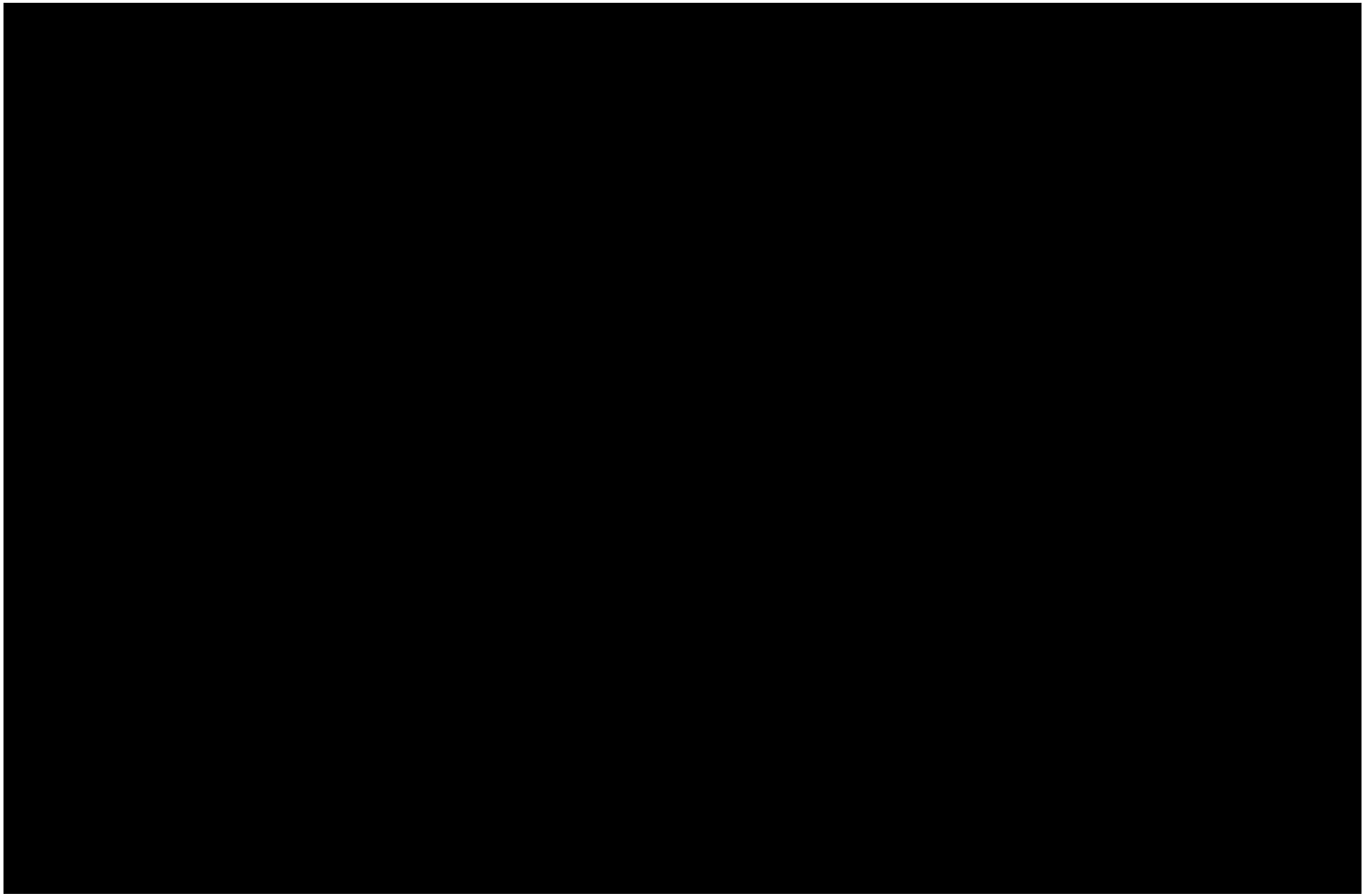

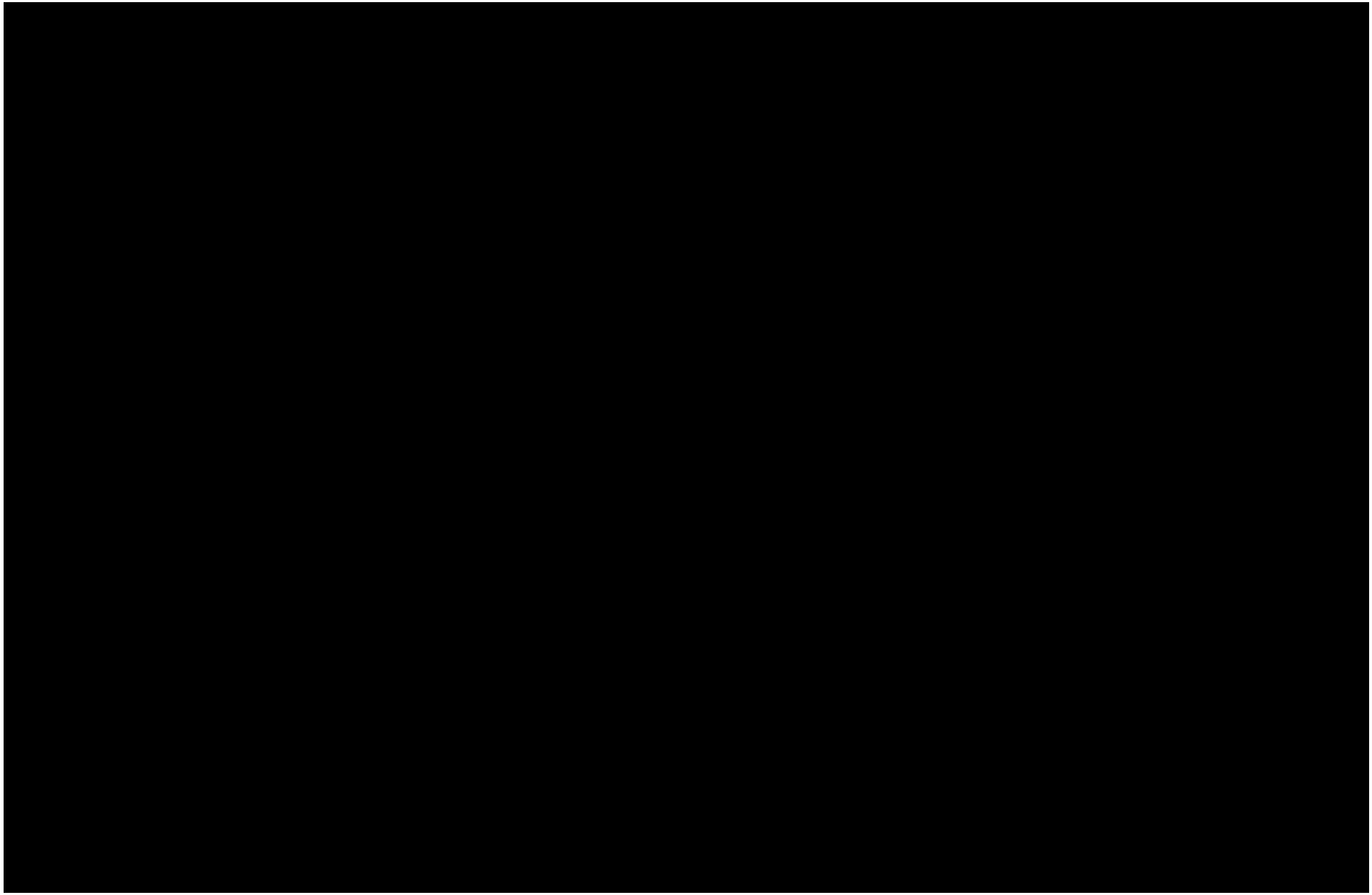

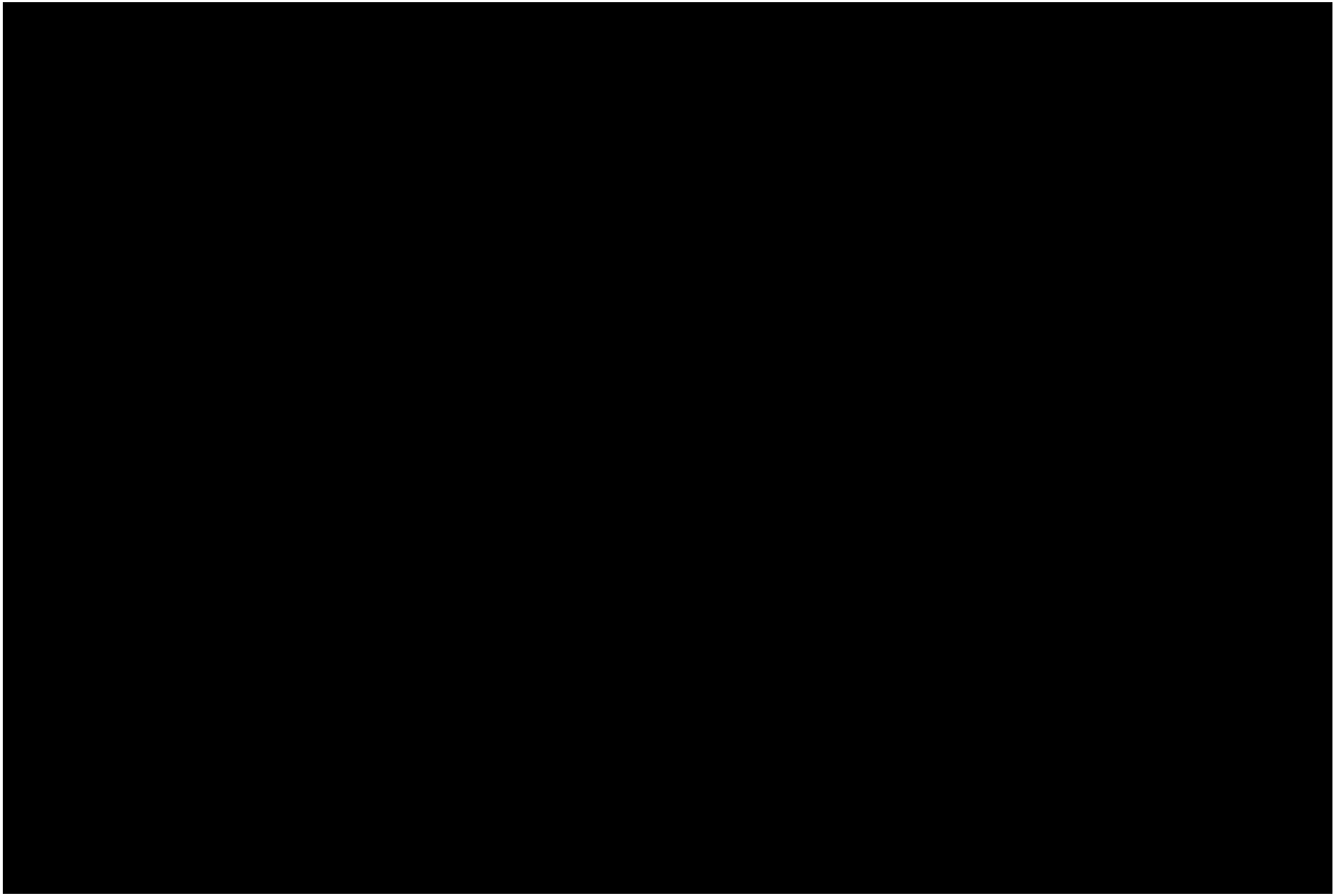

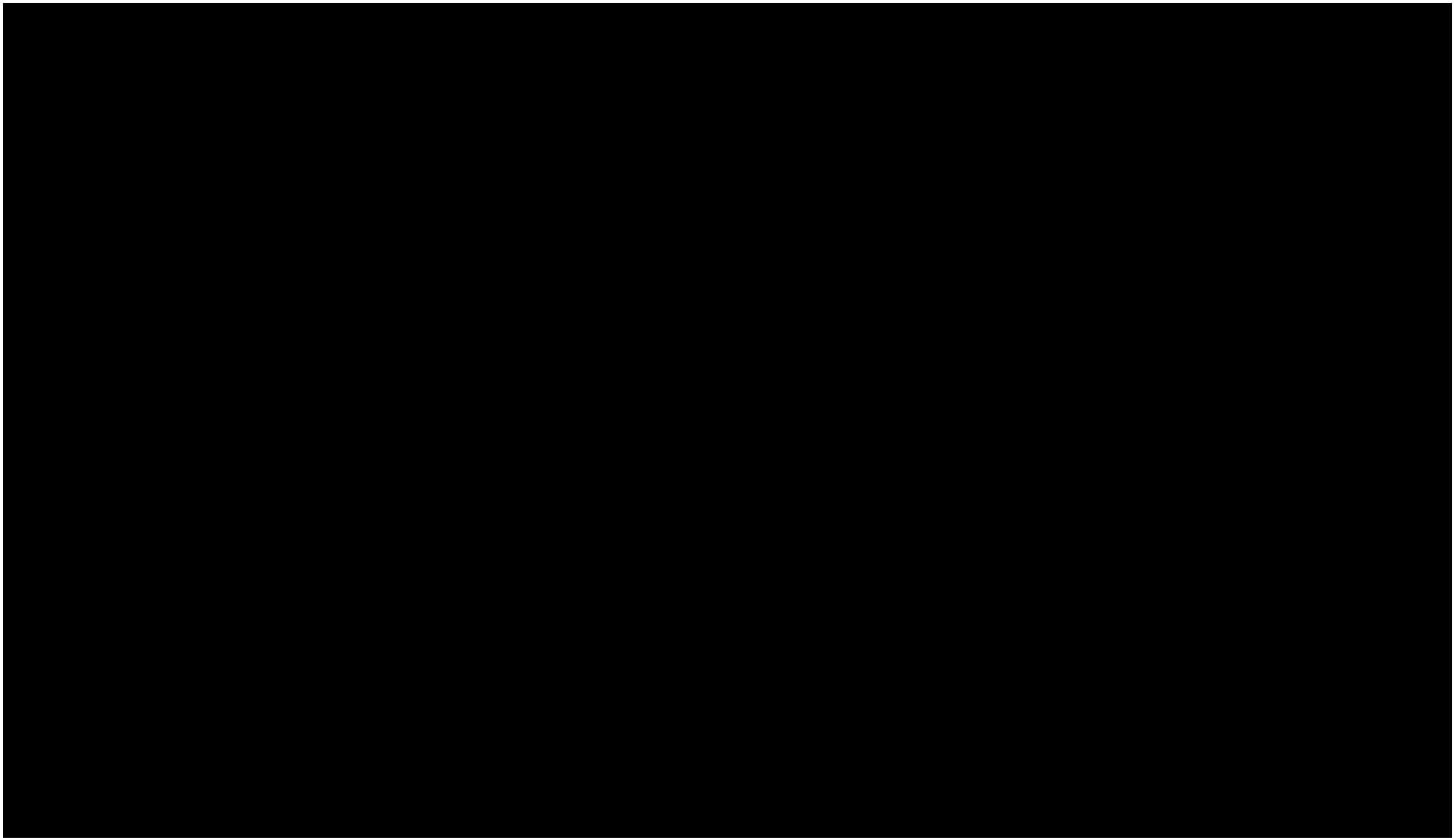

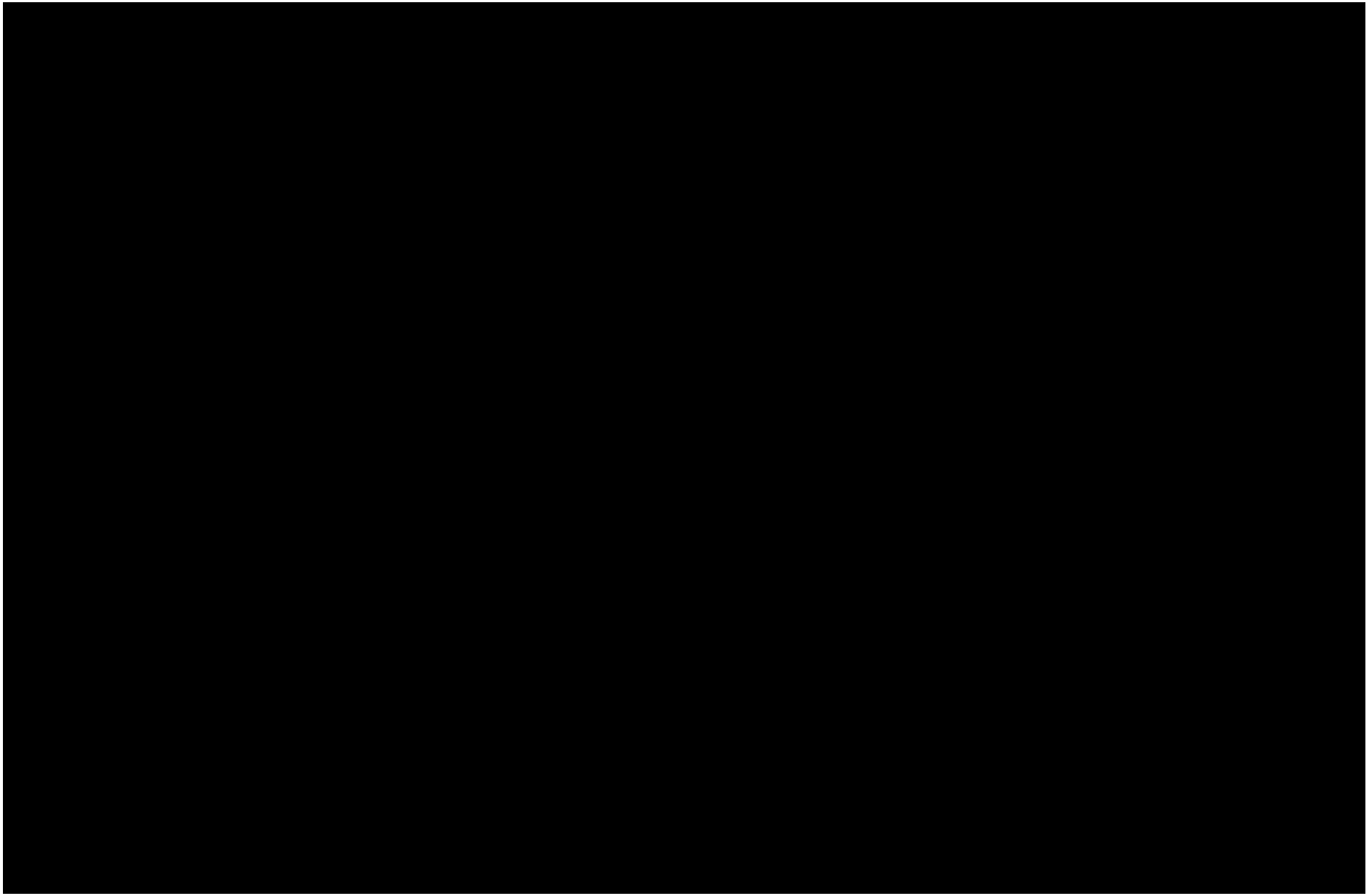

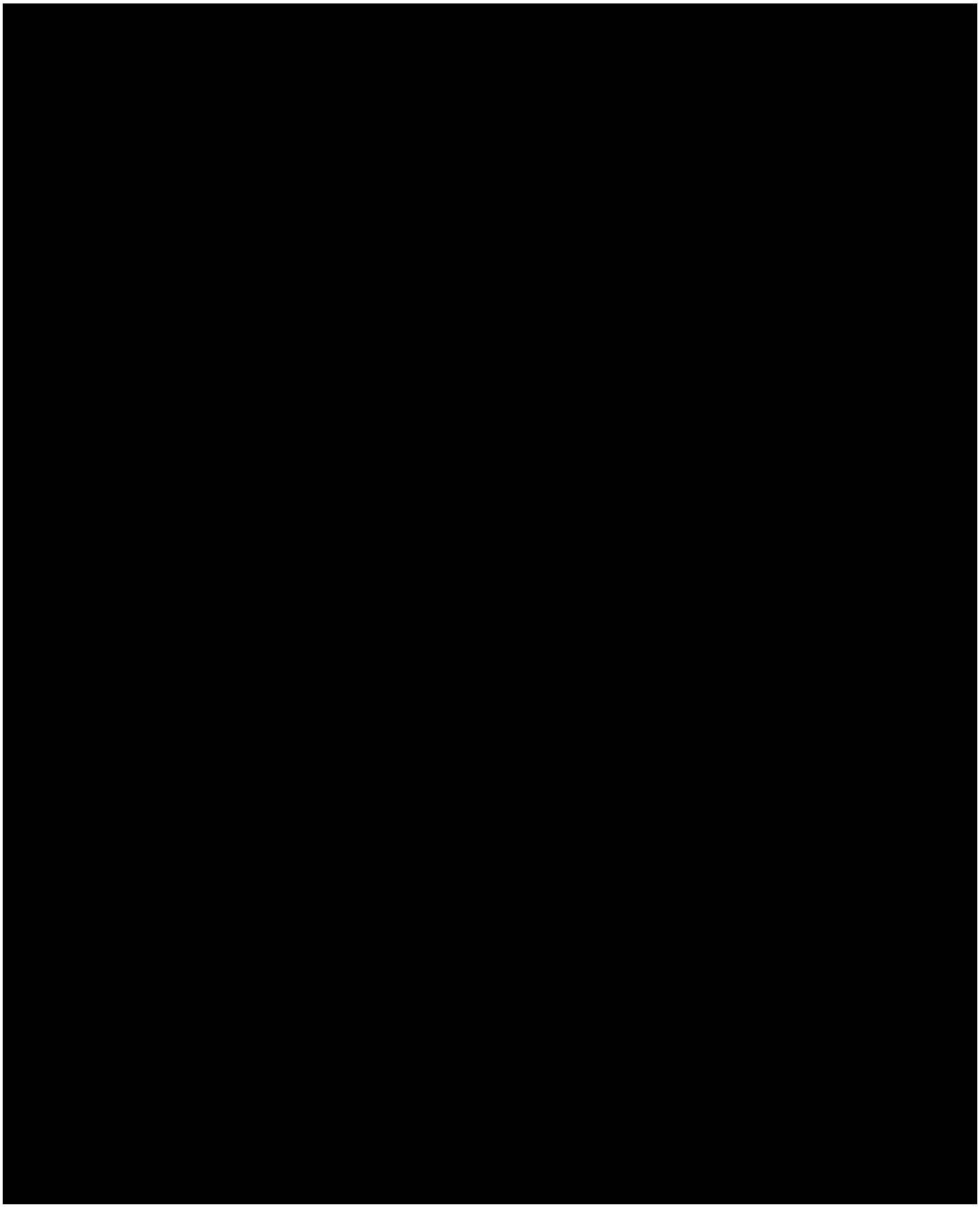

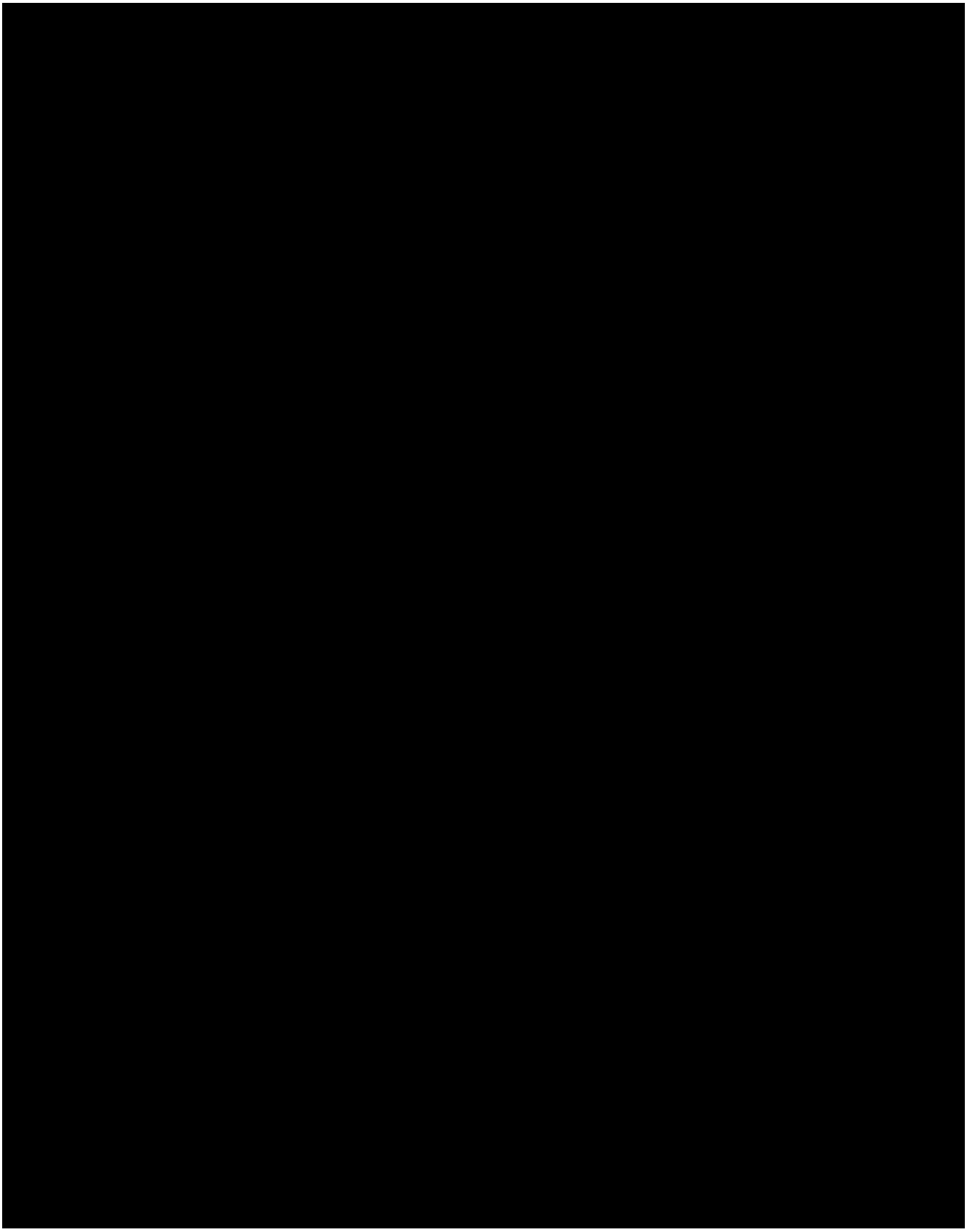

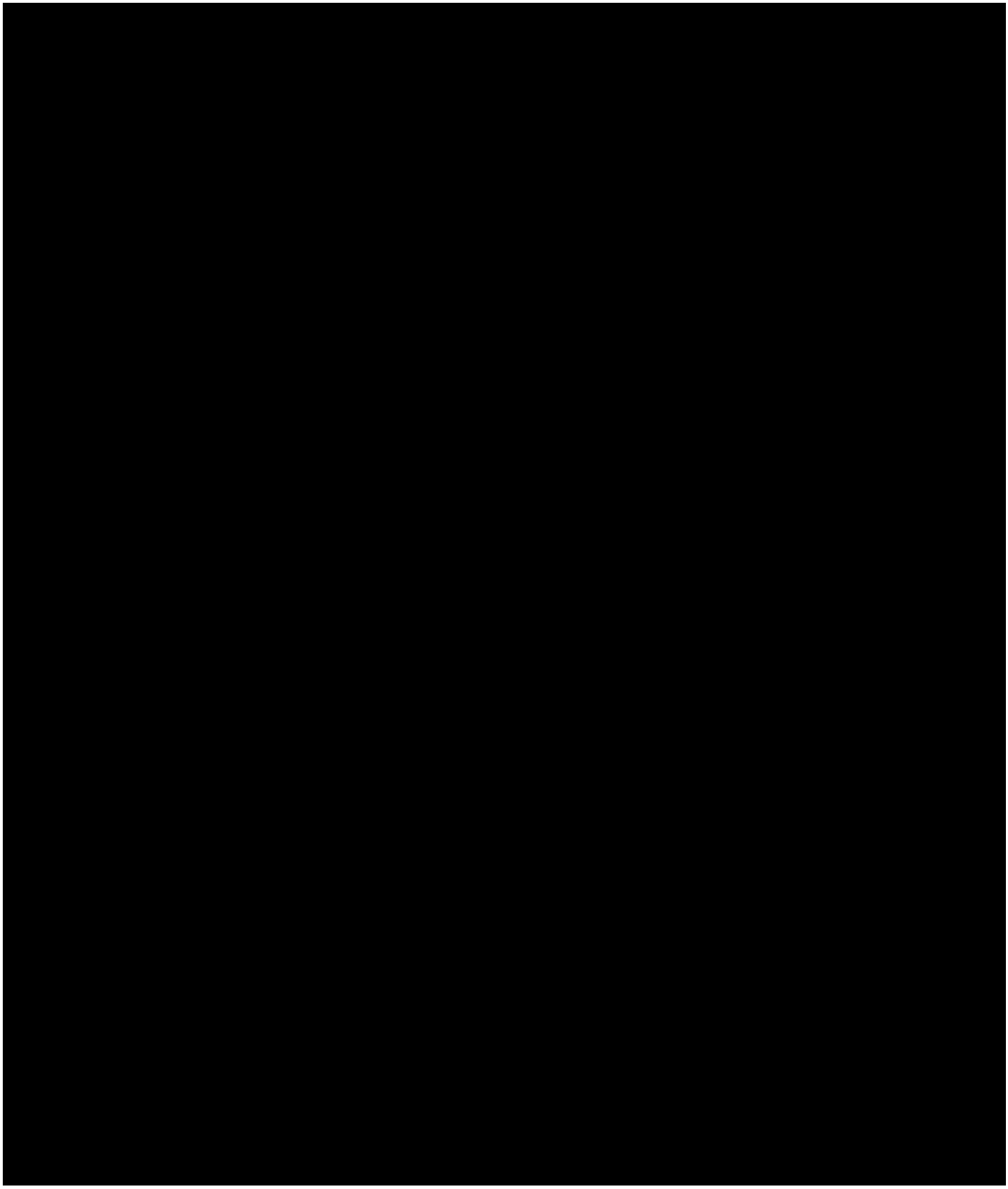

[redacted]

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A.5.b Training Provider and Responsibility

All personnel training will be provided by the operator or by the subcontractor responsible for the data collection activity.

A.6 Documentation and Records

Each monitoring focus area produces distinct types of data and has distinct data-management needs (input, storage, processing, manipulation, querying, access/output). [redacted]

A.6.a Report Format and Package Information

RPS will provide a semi-annual report for EPA and LDNR containing all required project data as specified by the UIC Class VI permit. Data will be provided in electronic or other formats as required by the UIC Program Director and Office of Conservation Commissioner.

A.6.b Other Project Documents, Records, and Electronic Files

Other documents, records, and electronic files will be provided as required by the UIC Program Director and Office of Conservation Commissioner, and may include laboratory QC test results or well logs.

A.6.c Data Storage and Duration

RPS or a designated contractor will maintain the required project data as described in the records plan.

A.6.d QASP Distribution Responsibility

A representative from RPS will be designated as the responsible party for ensuring that all those on the distribution list will receive and maintain the latest copy of the approved QASP.

B. Direct Data Generation and Acquisition

B.1 Sampling Process Design

[redacted]

[redacted]

B.1.a Design Strategy

The overall strategy and approach for testing and monitoring is given in depth in the *Testing and Monitoring Plan*.

[redacted]

[redacted]

[2] Resource Conservation and Recovery Act. *42 U.S.C. 6901 et seq.* (1976).
[3] Comprehensive Environmental Response, Compensation, and Liability Act. *42 U.S.C. 9601 et seq.* (1980).

[redacted]

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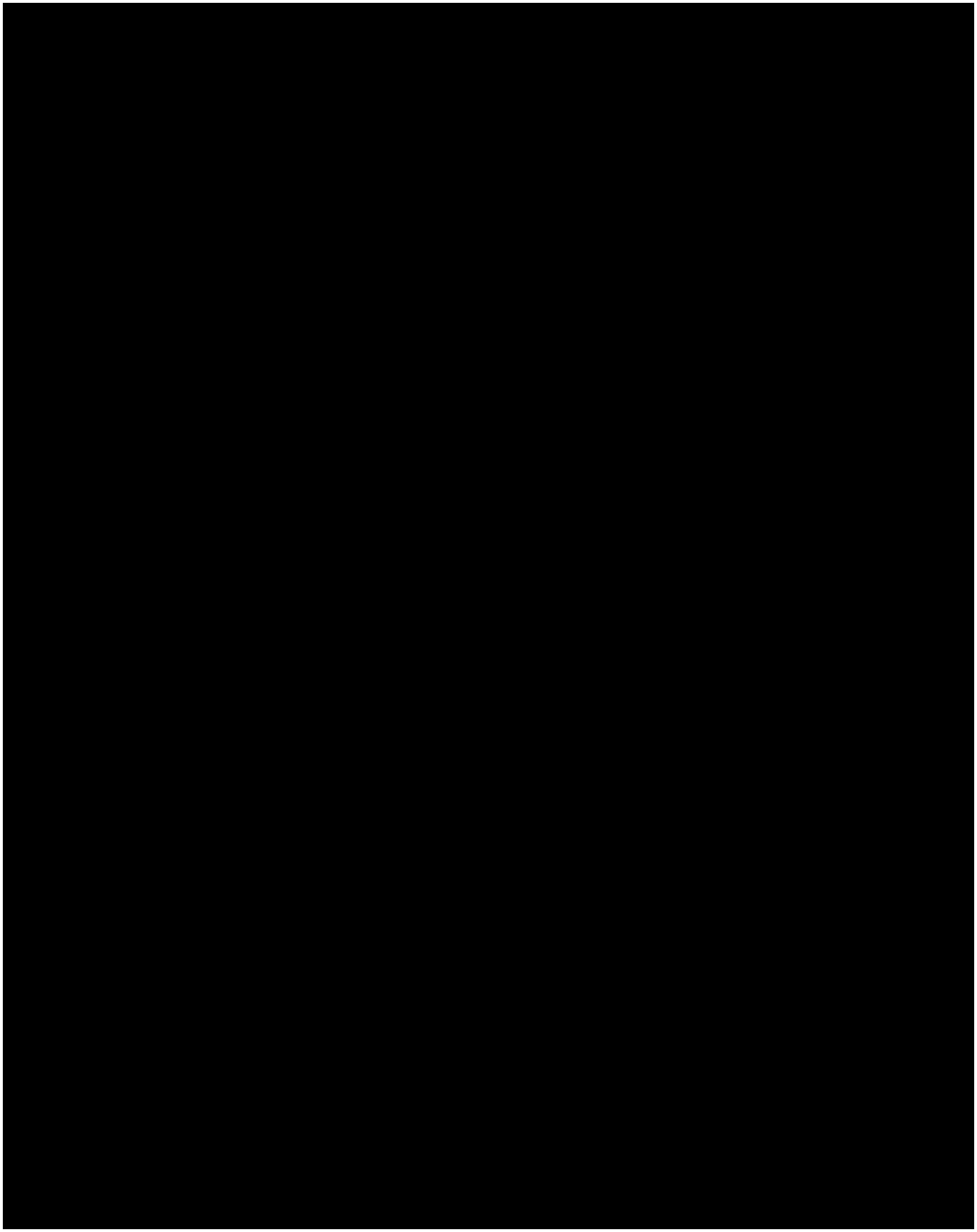

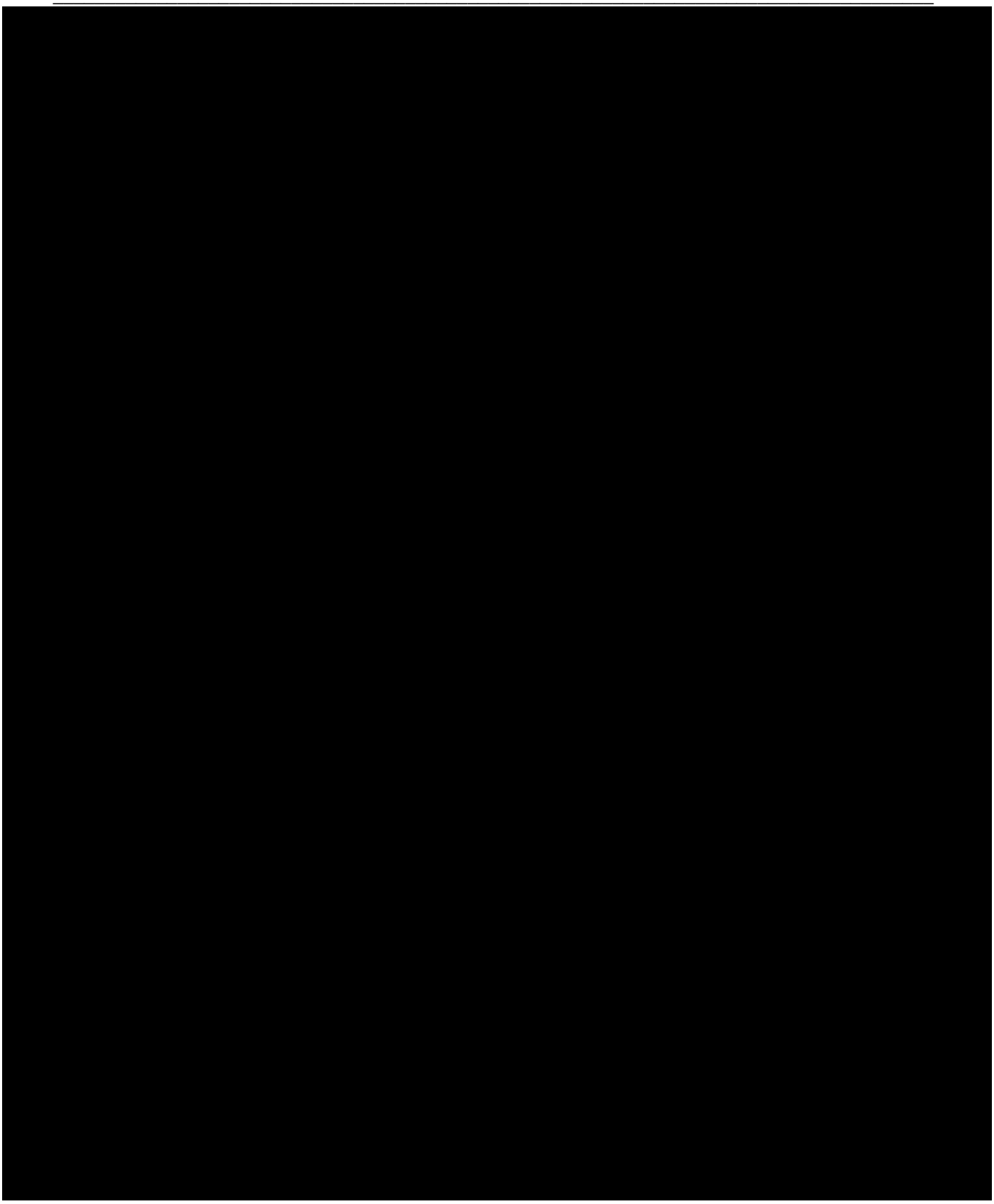

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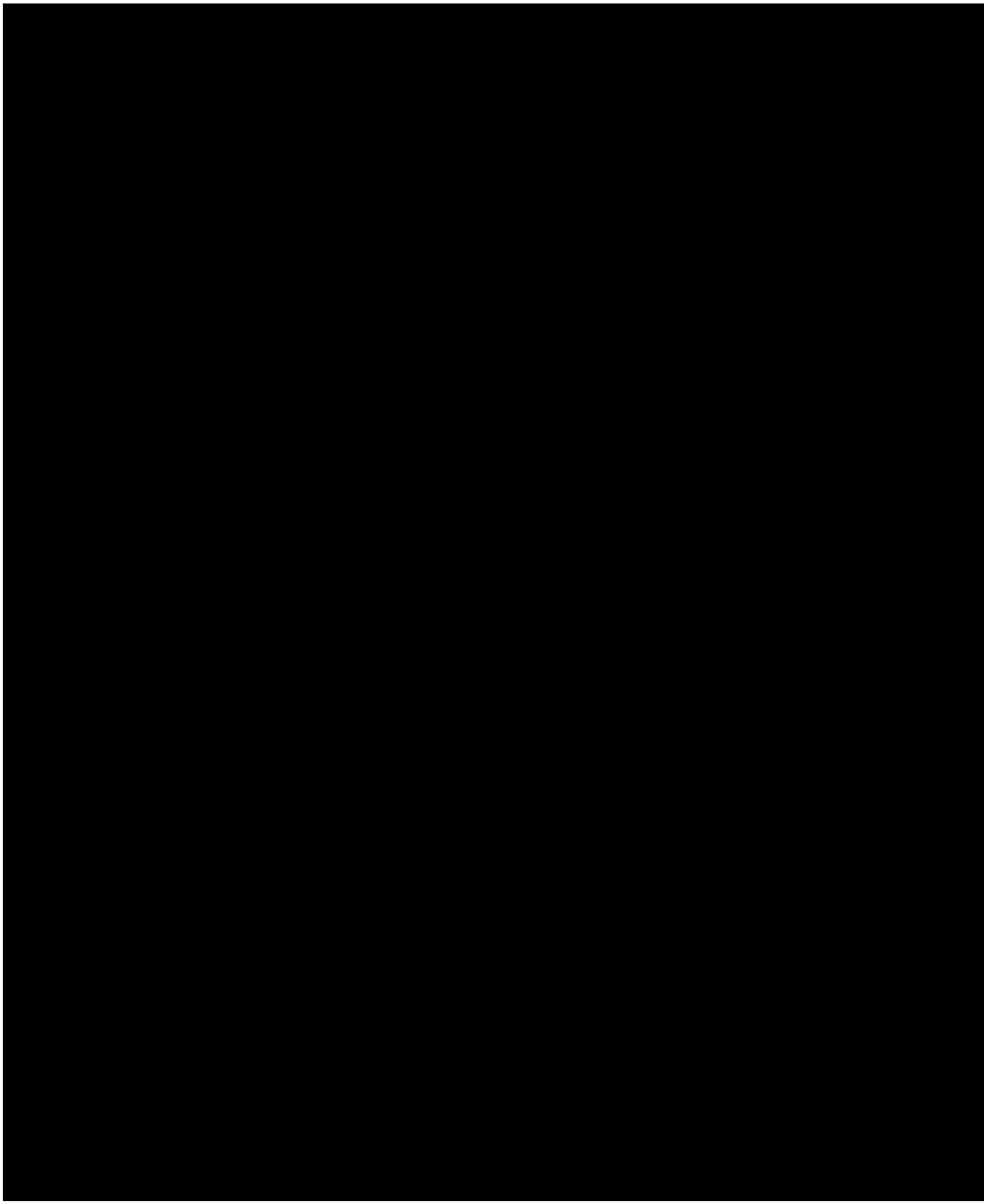

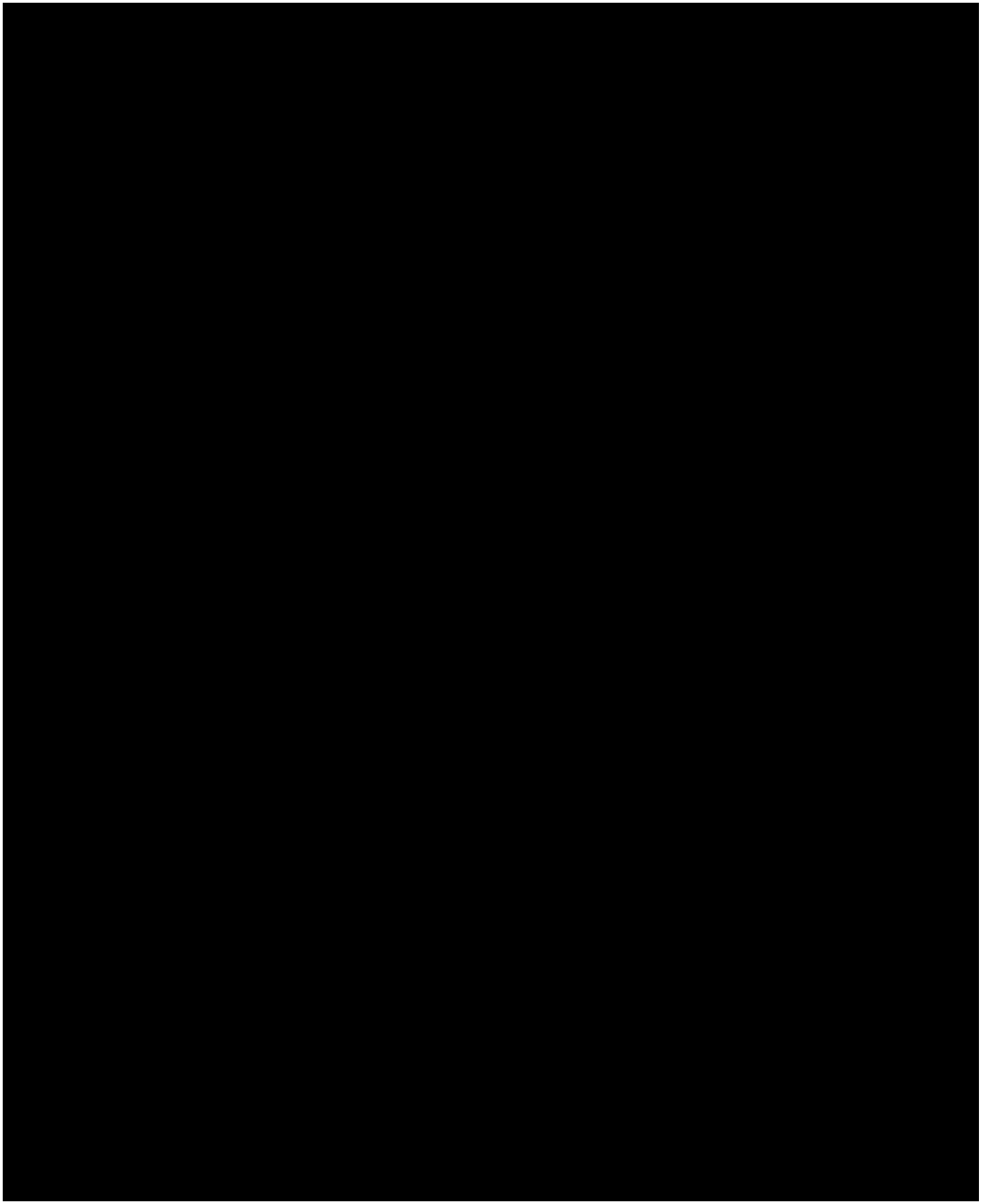

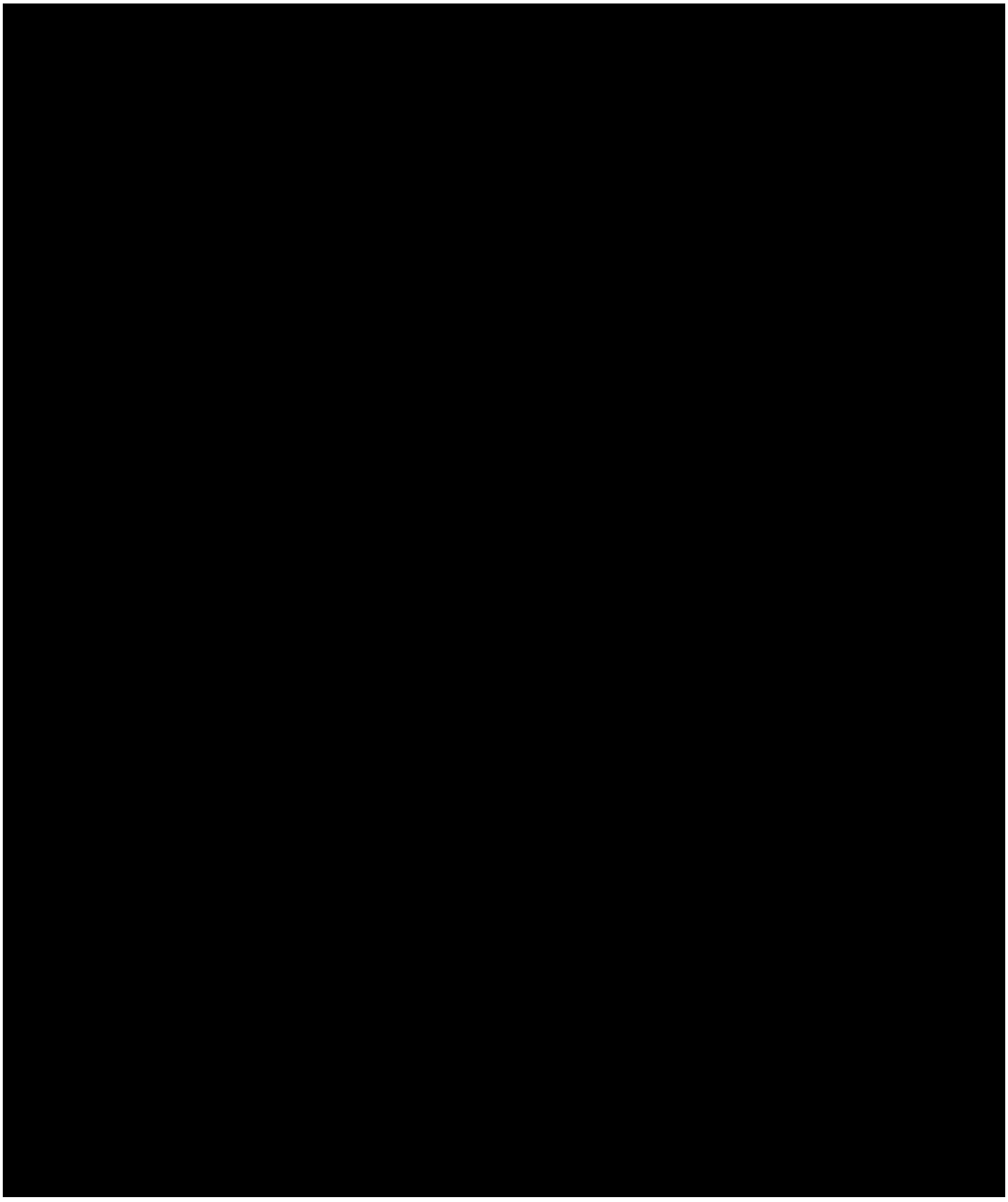

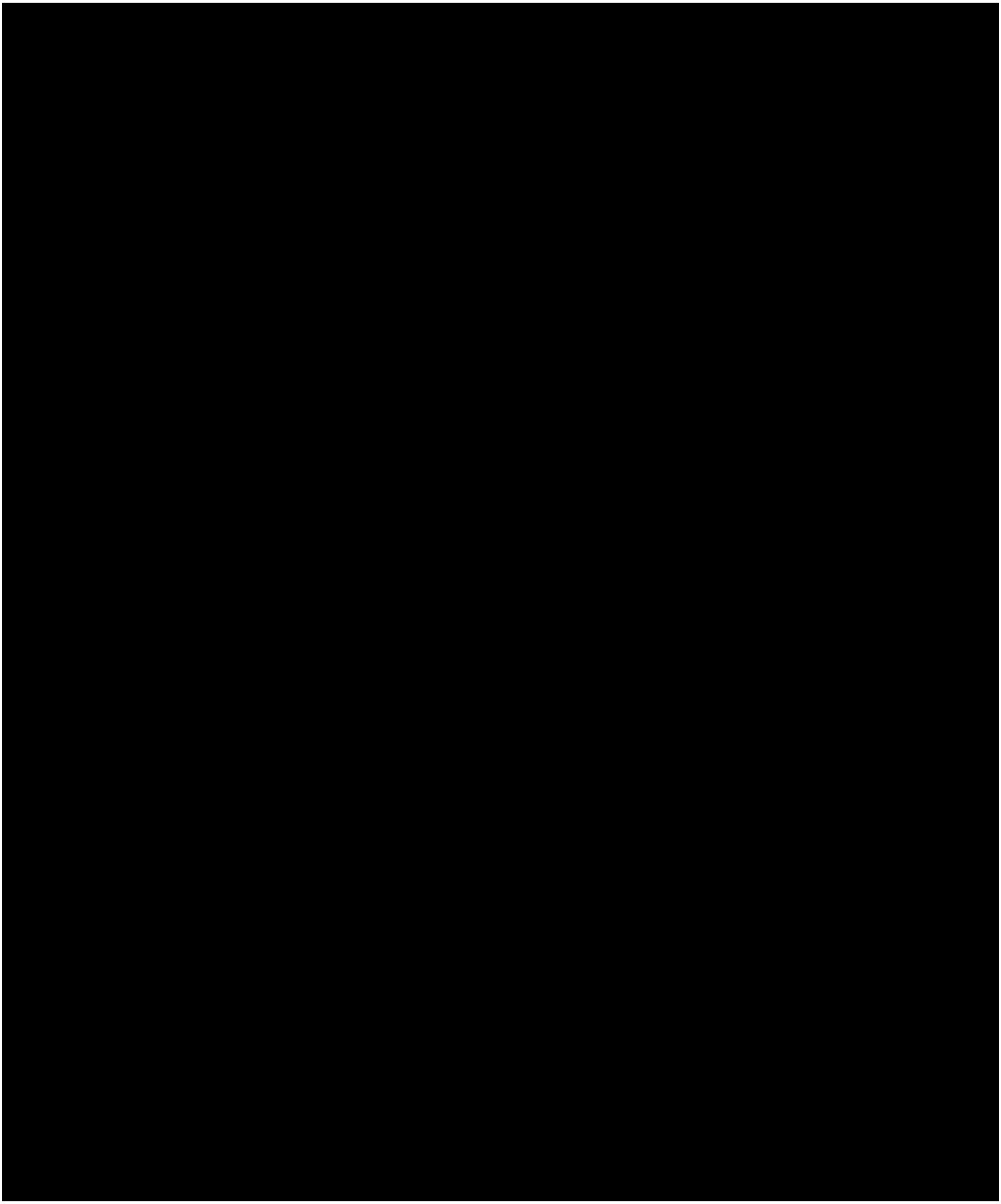

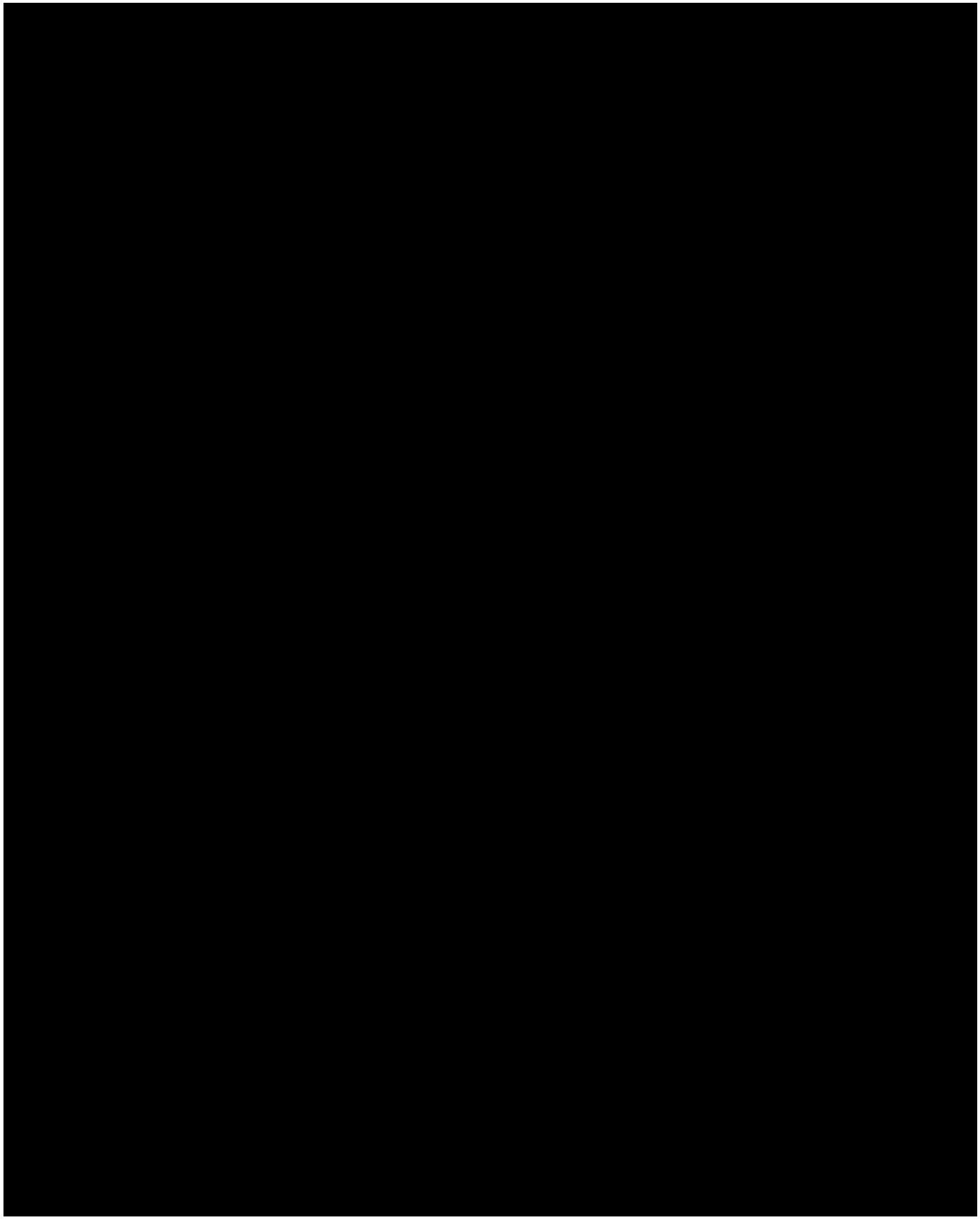

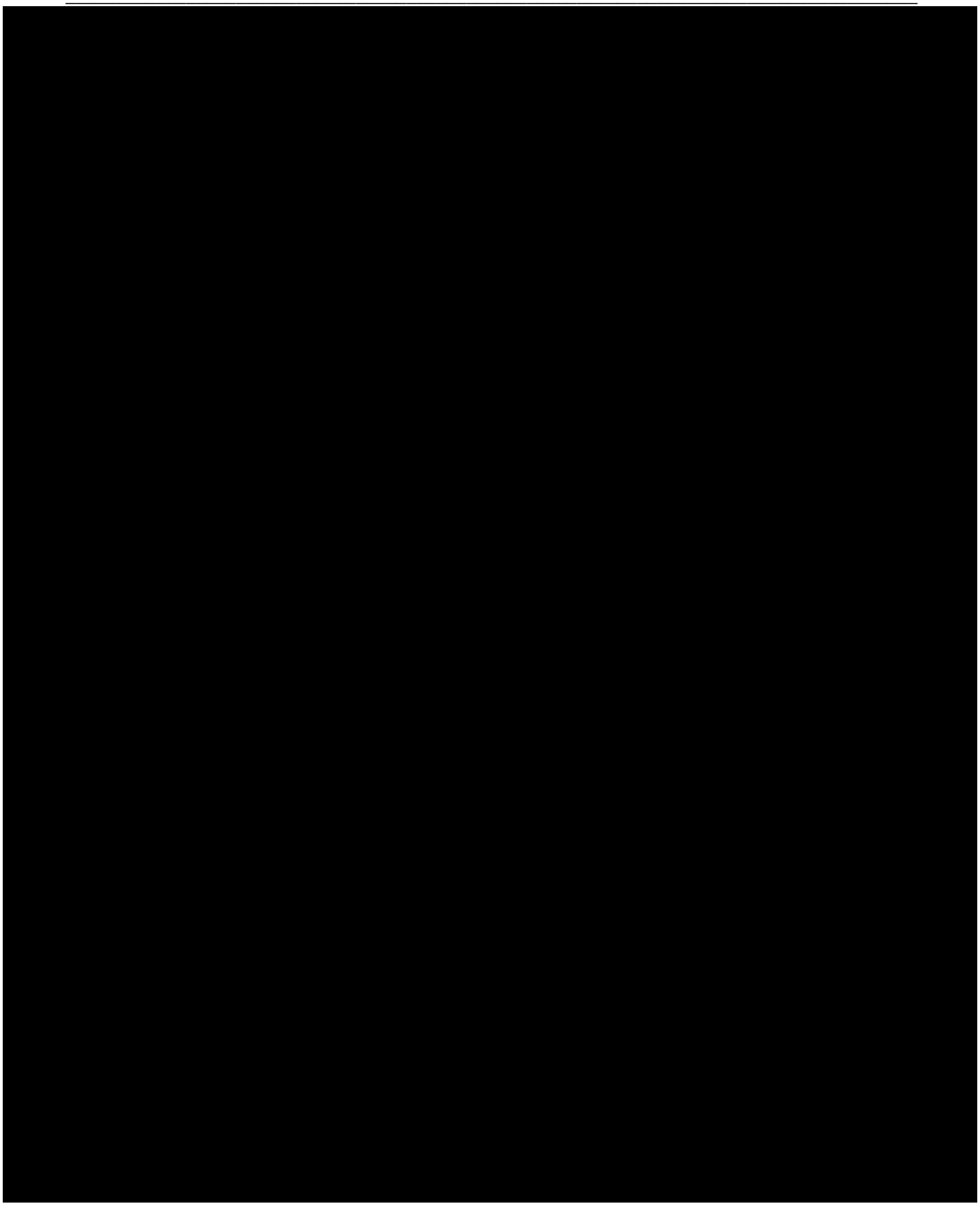

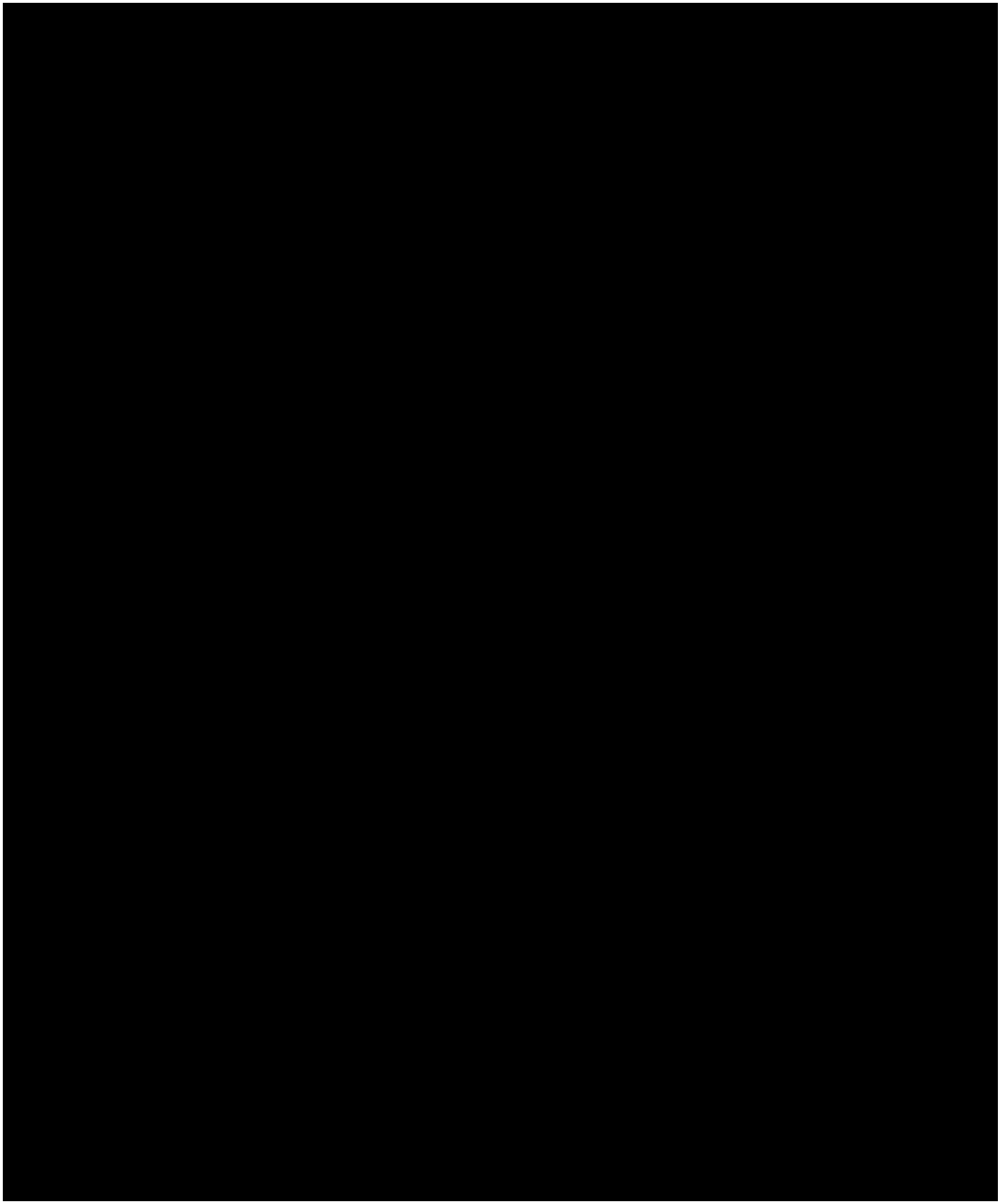

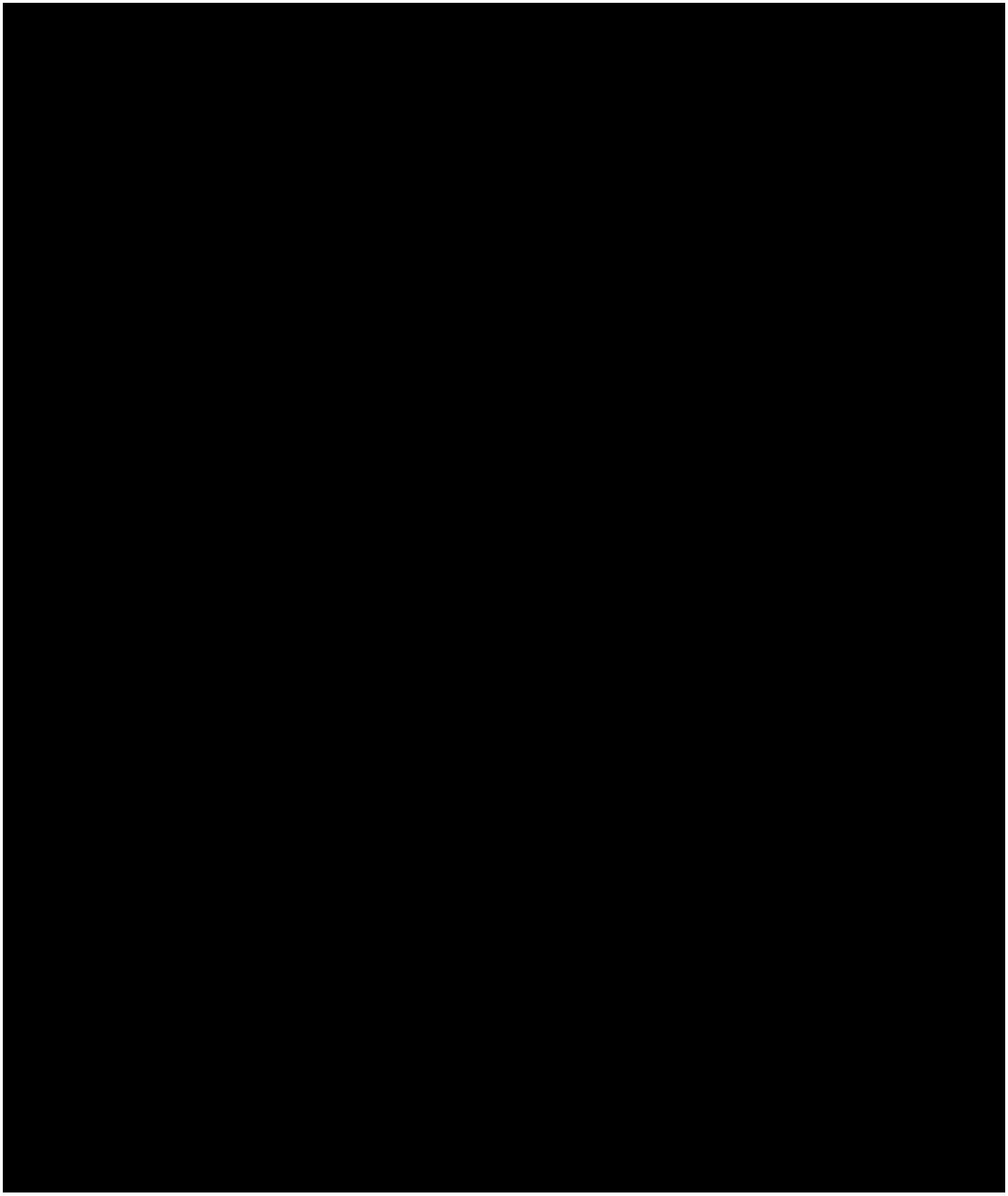

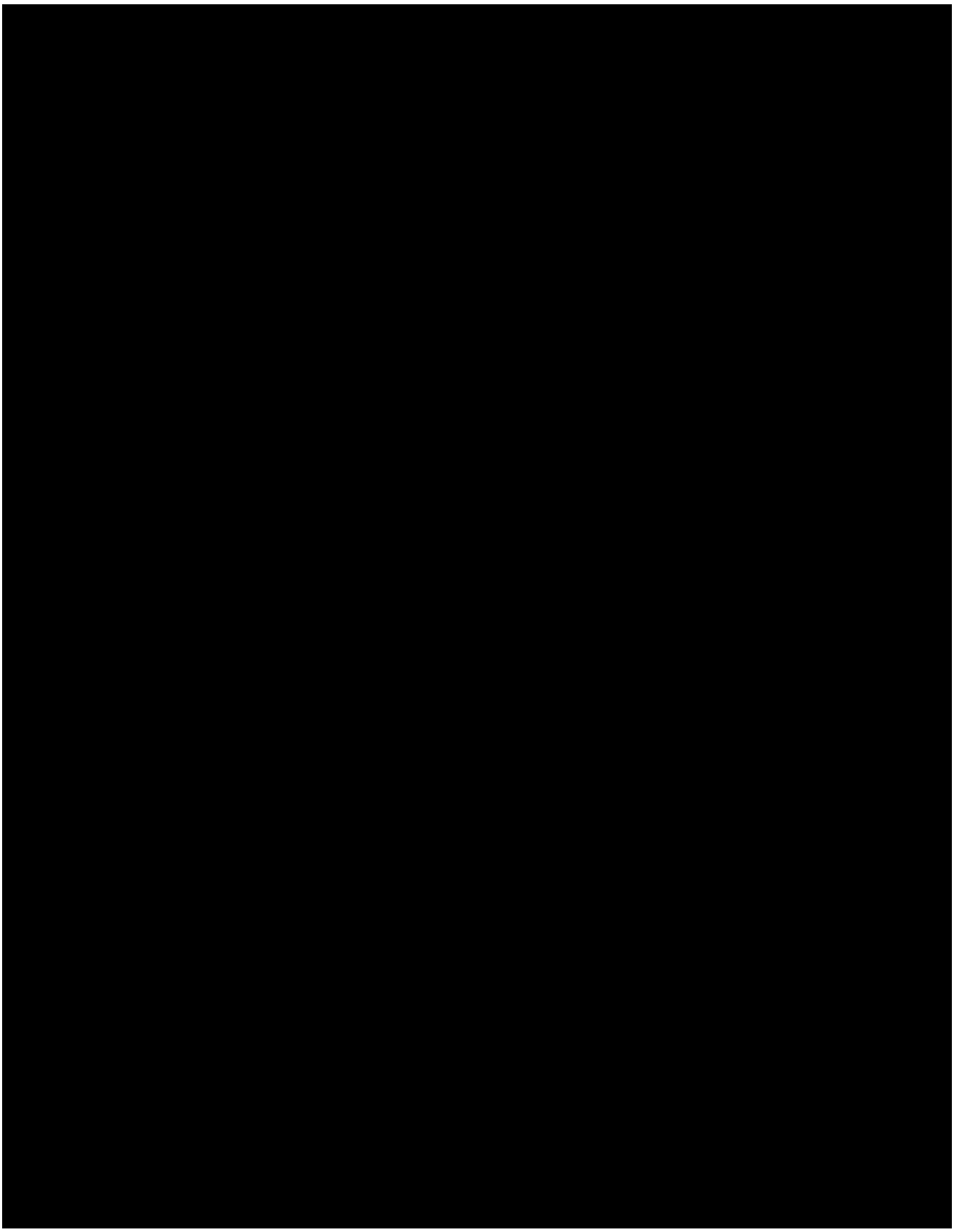

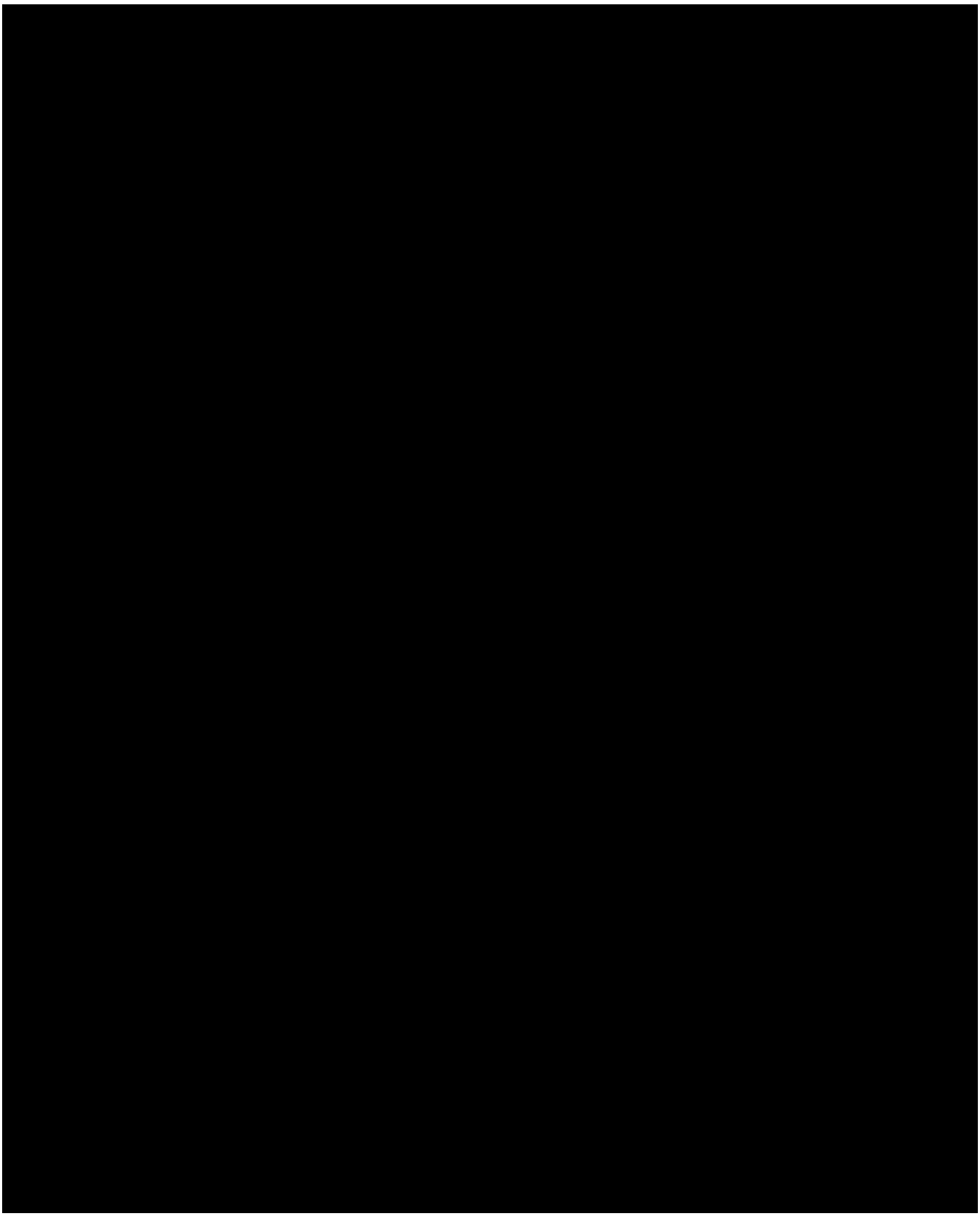

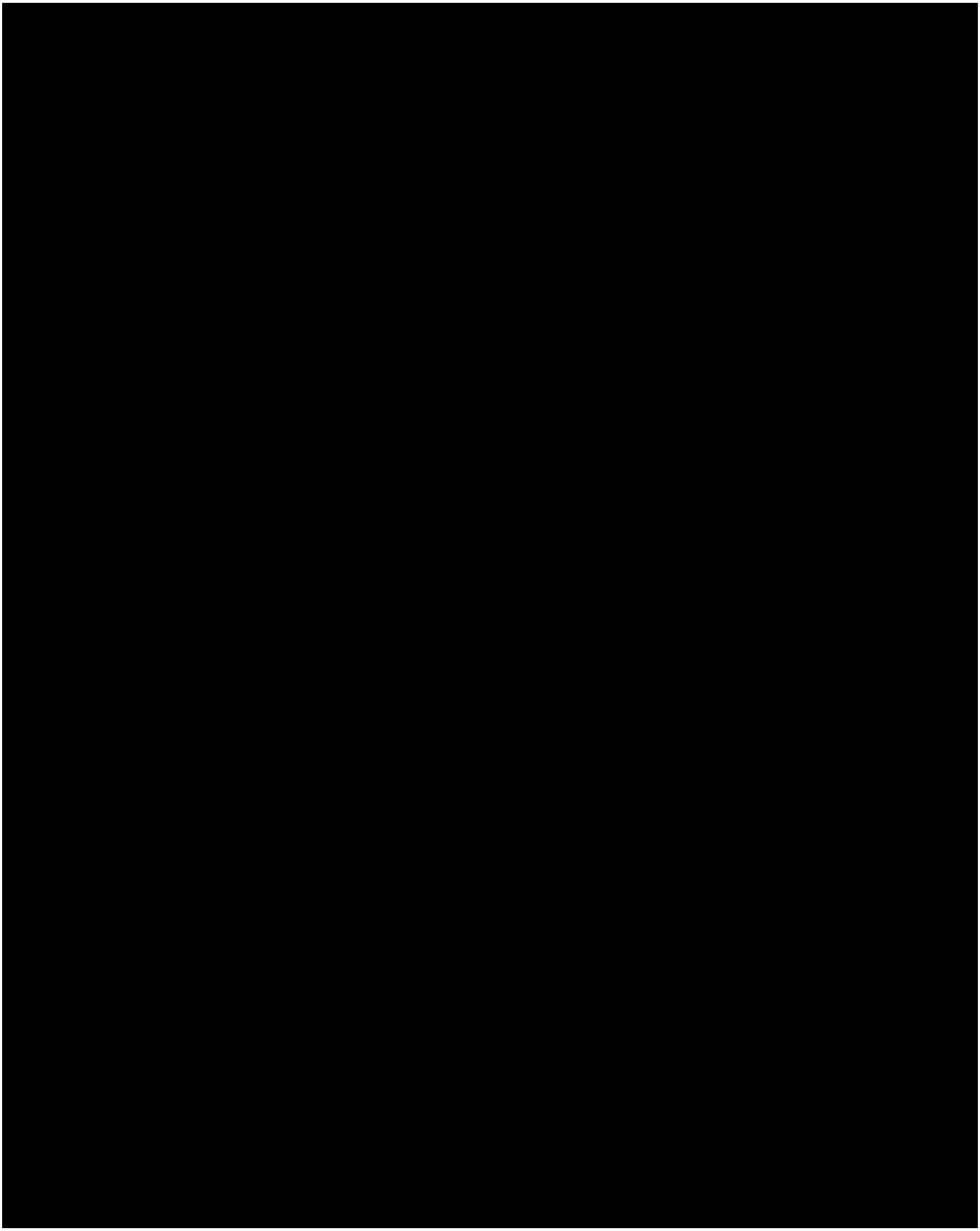

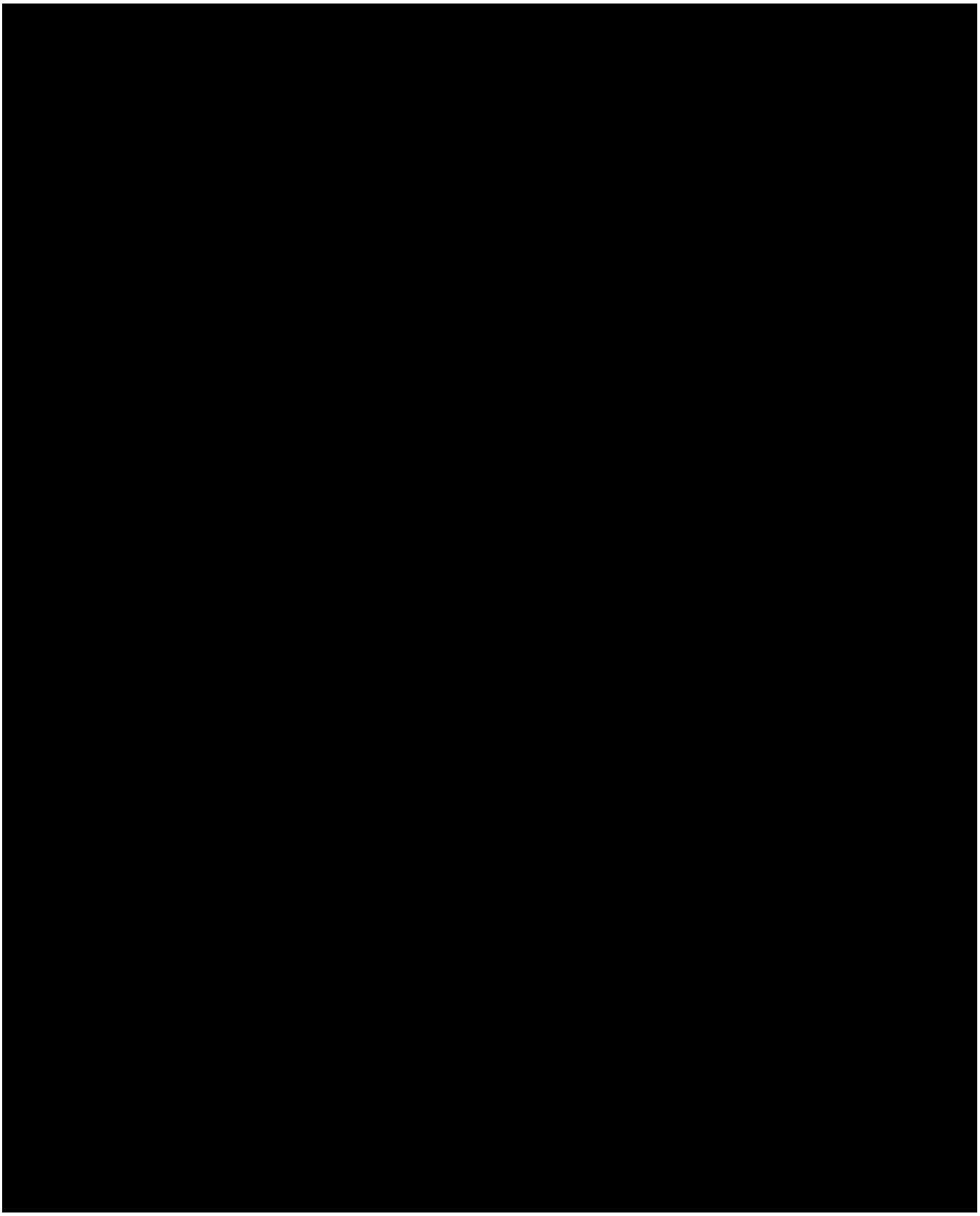

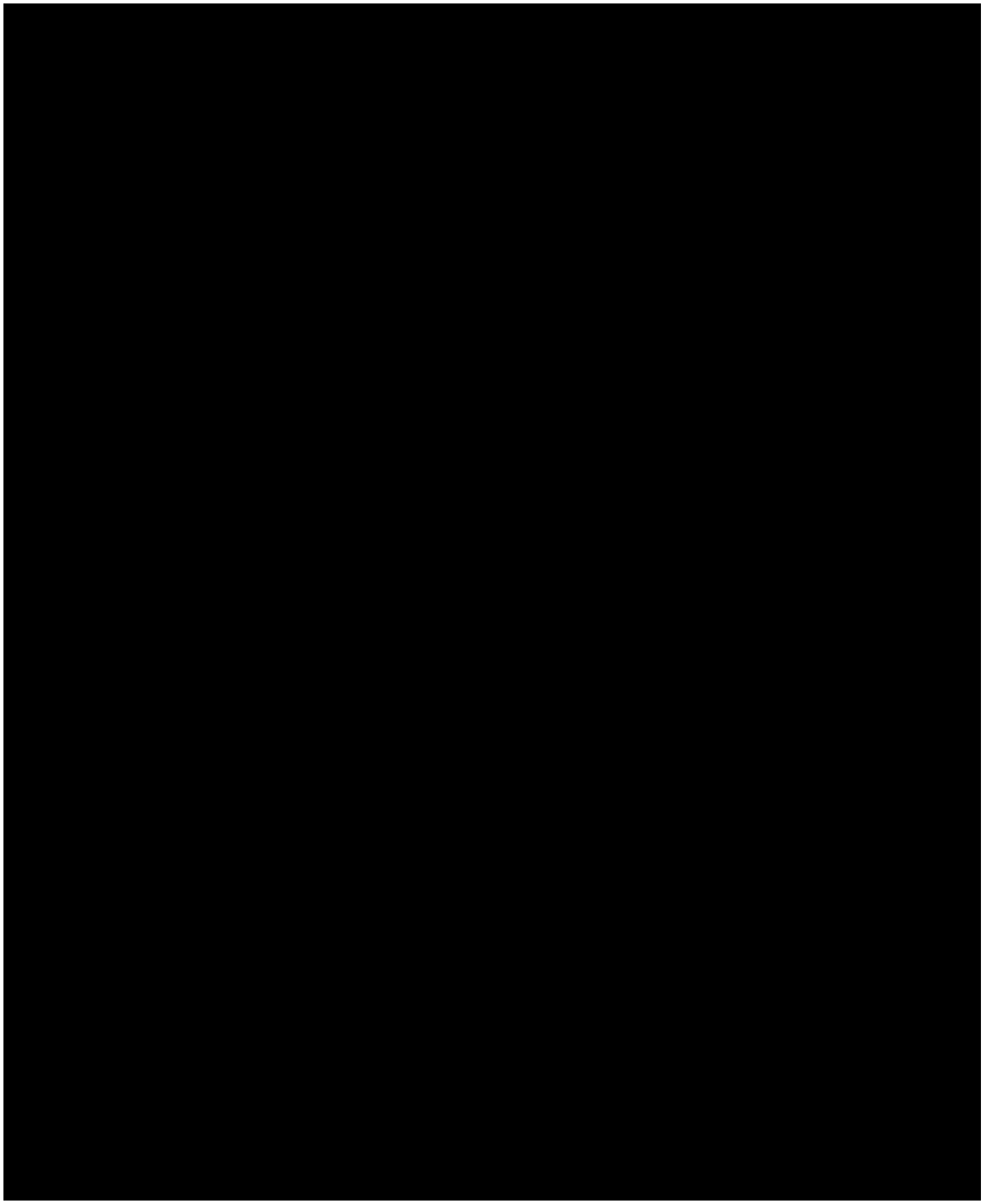

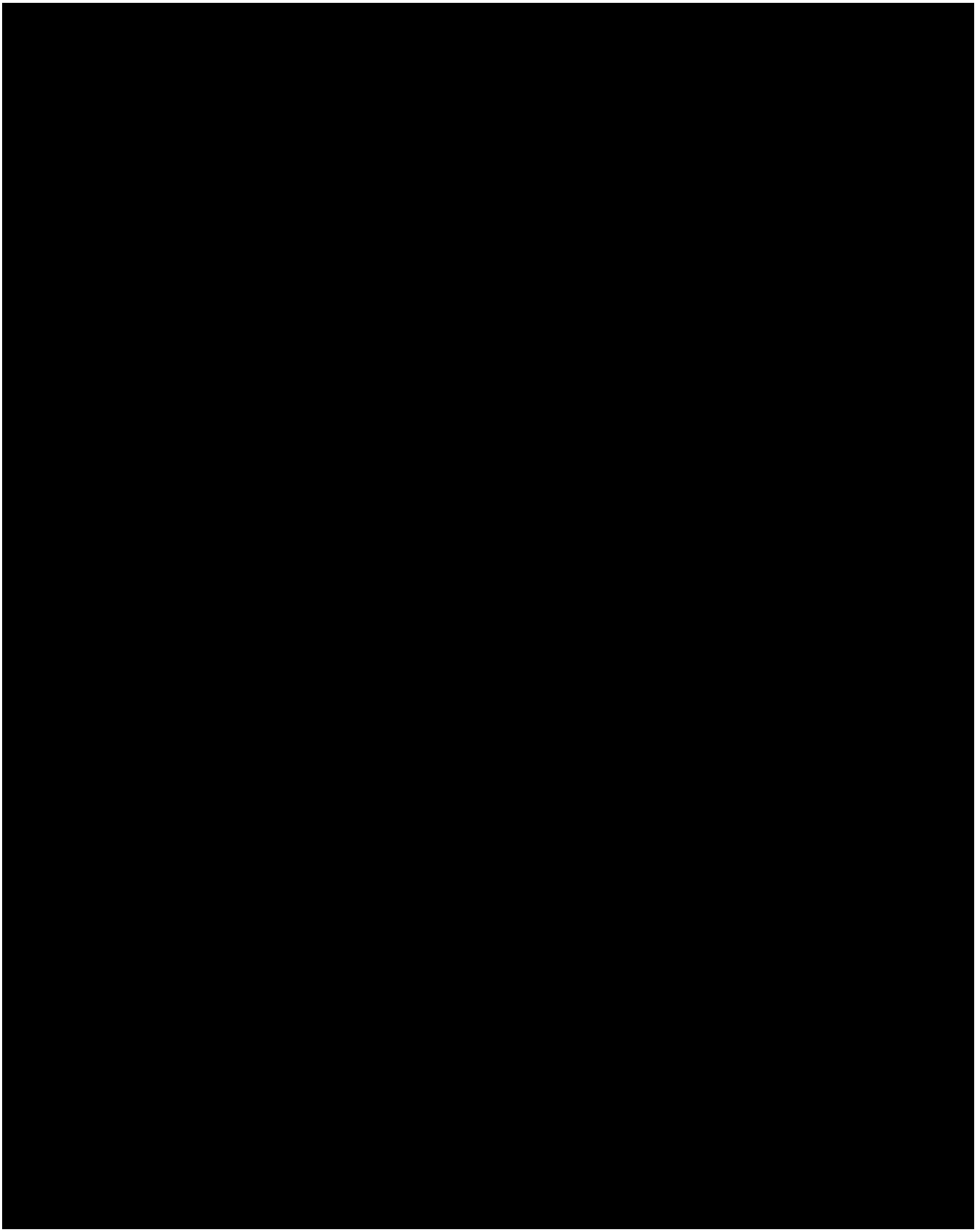

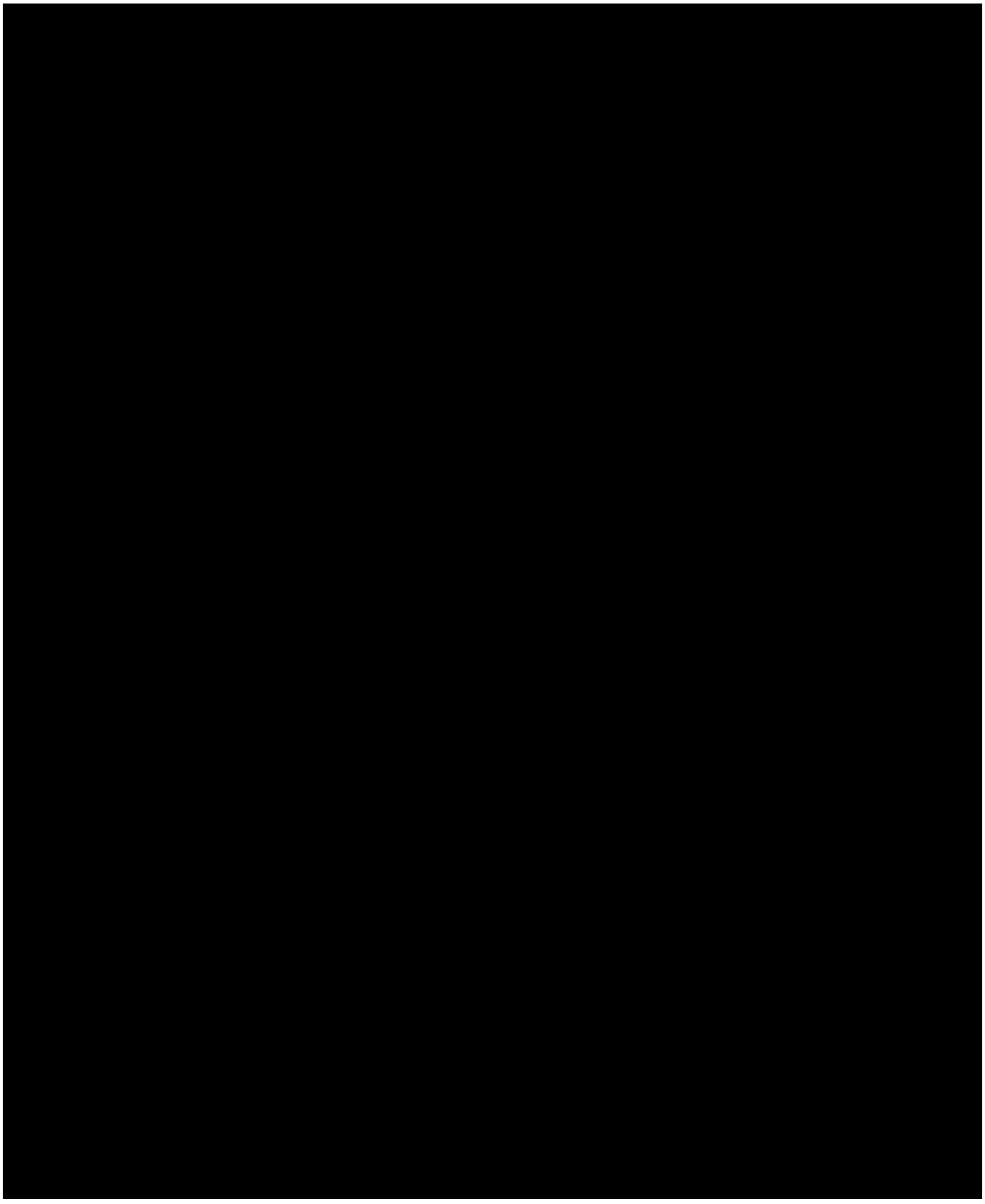

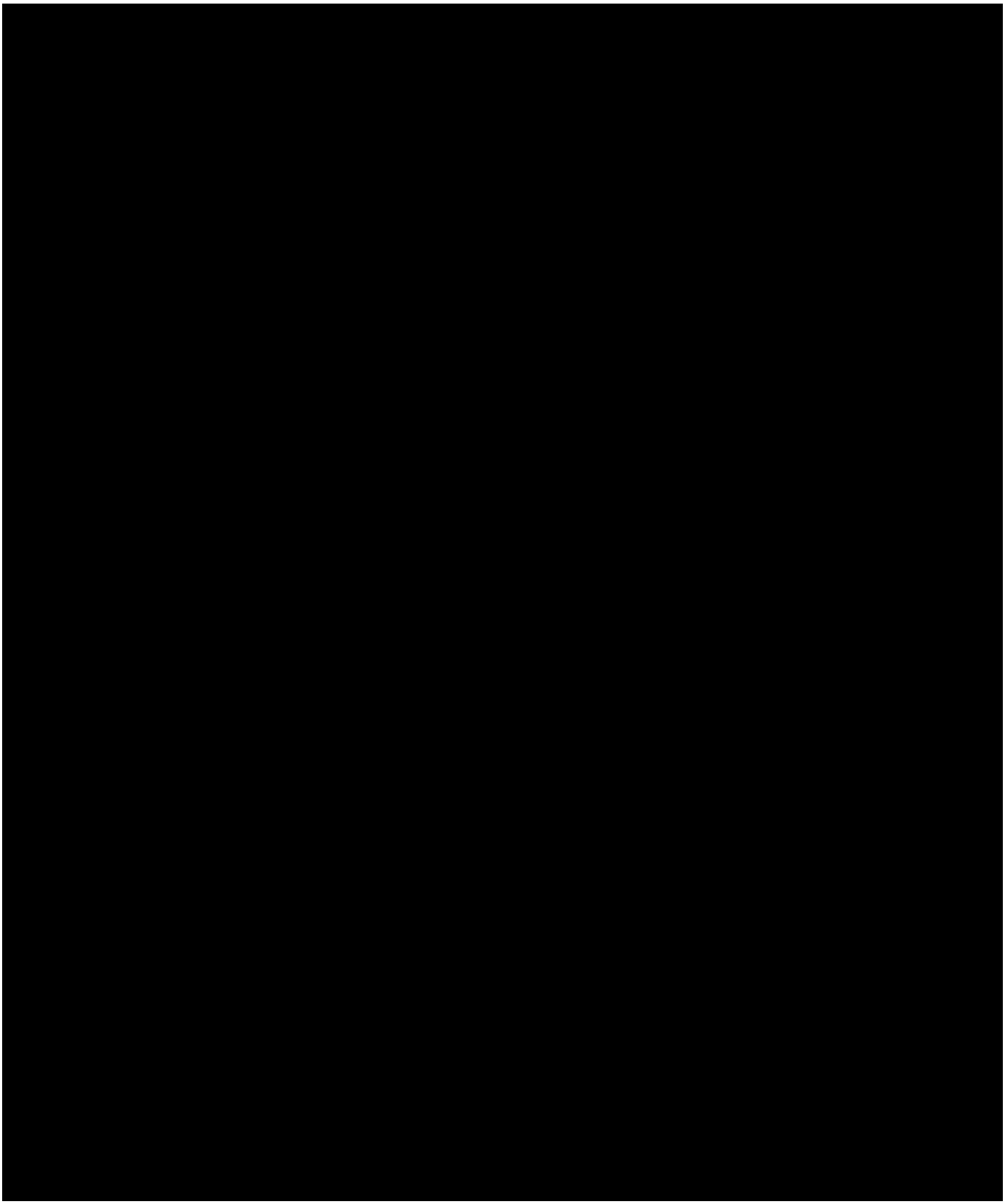

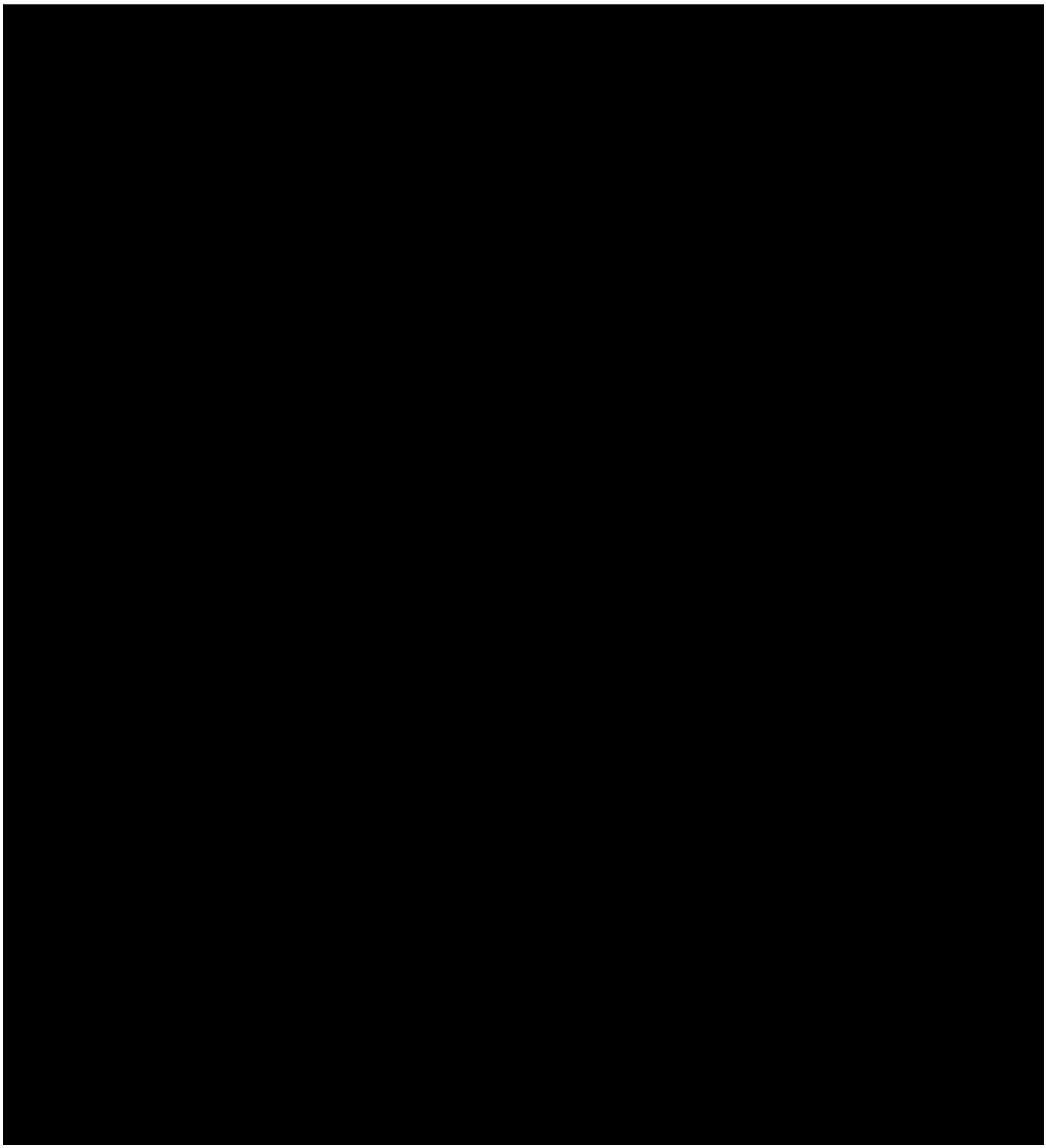

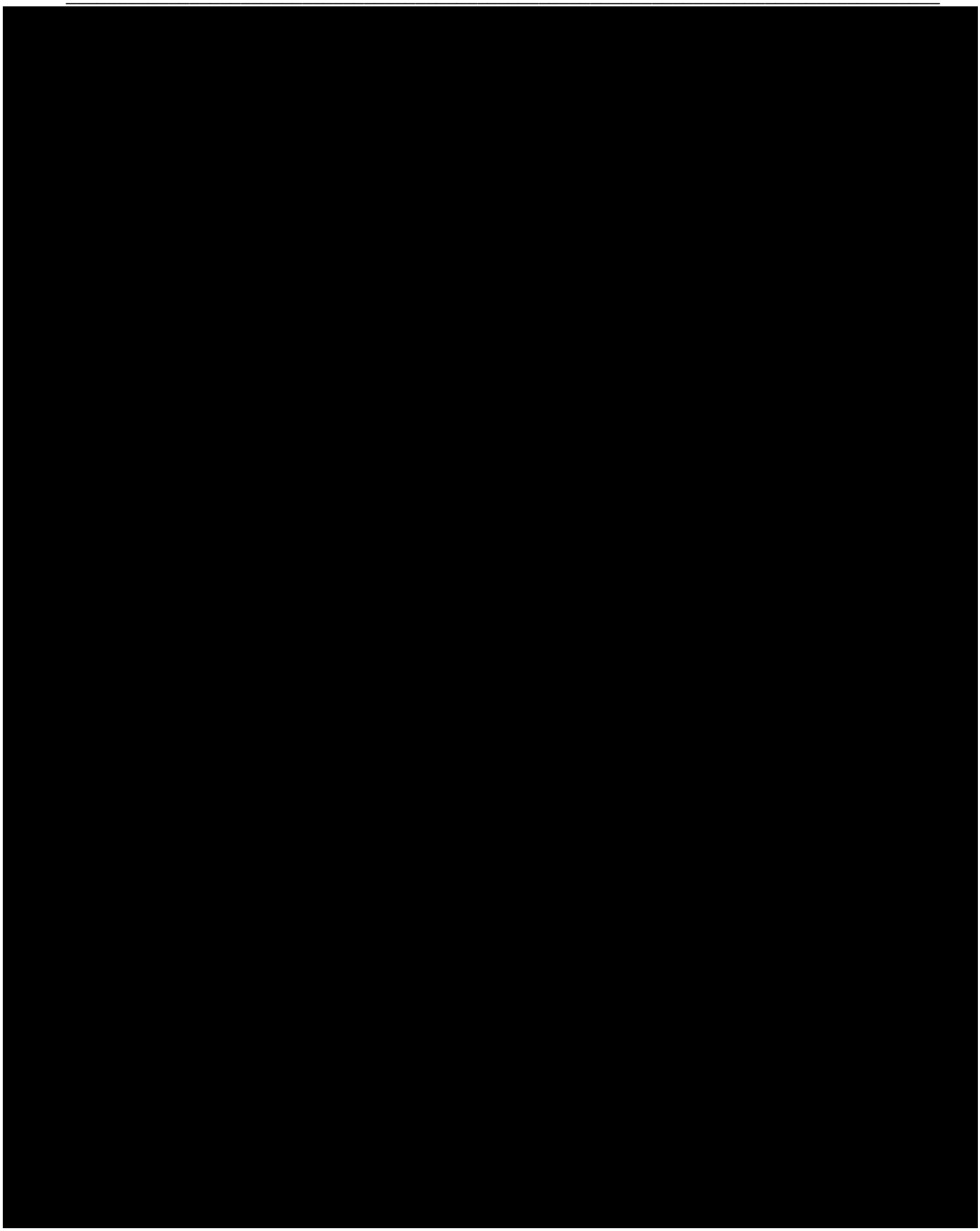

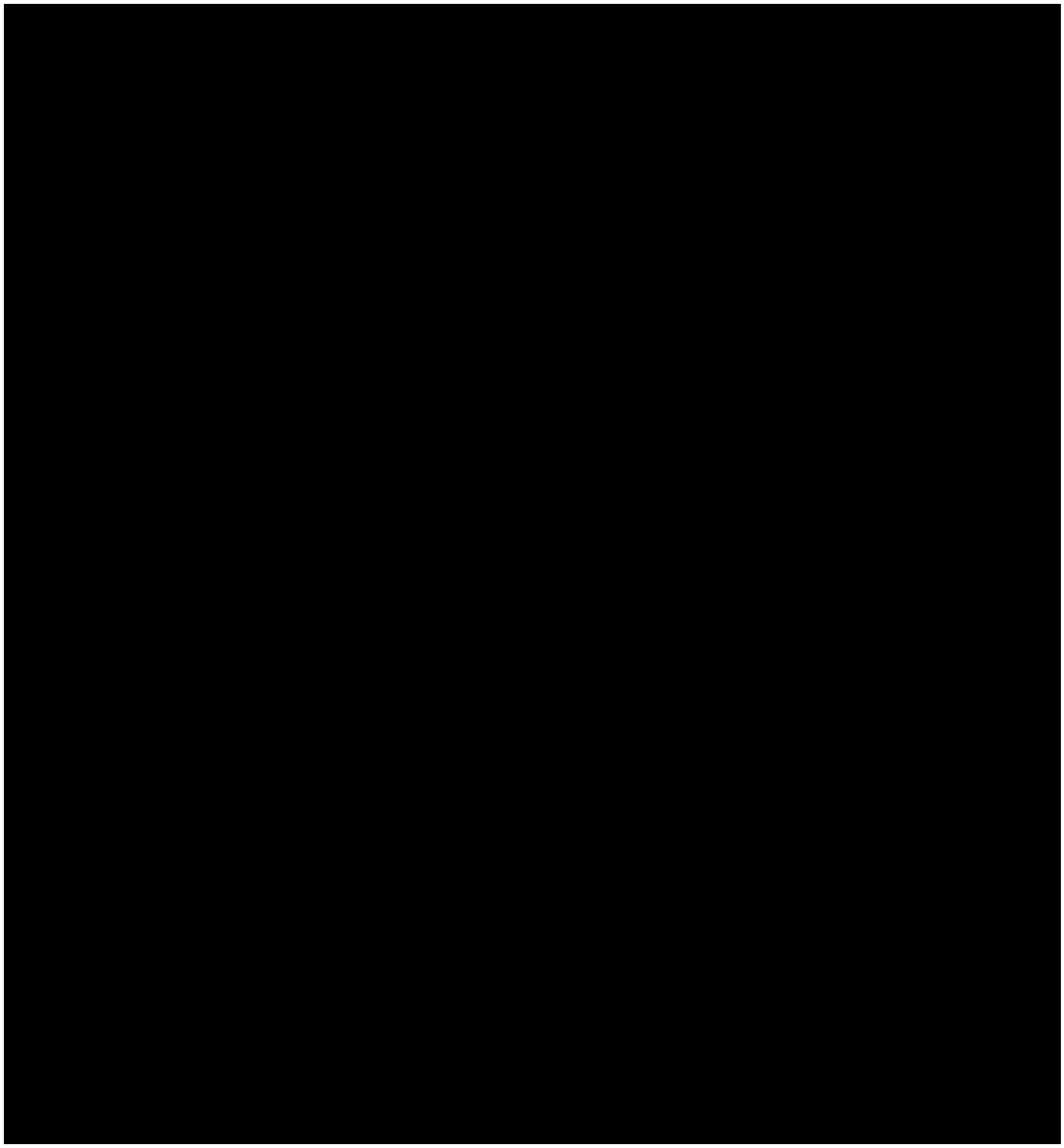

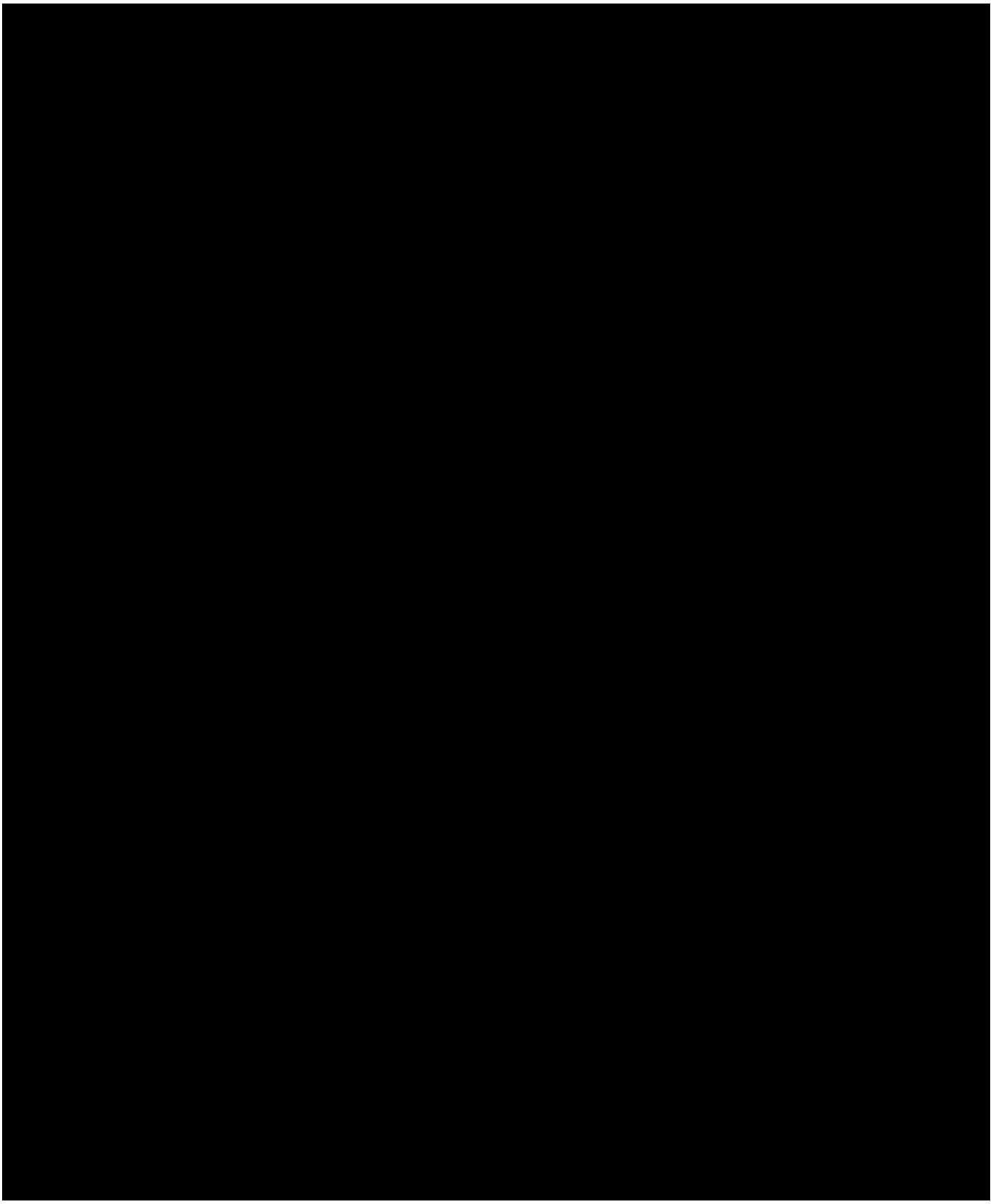

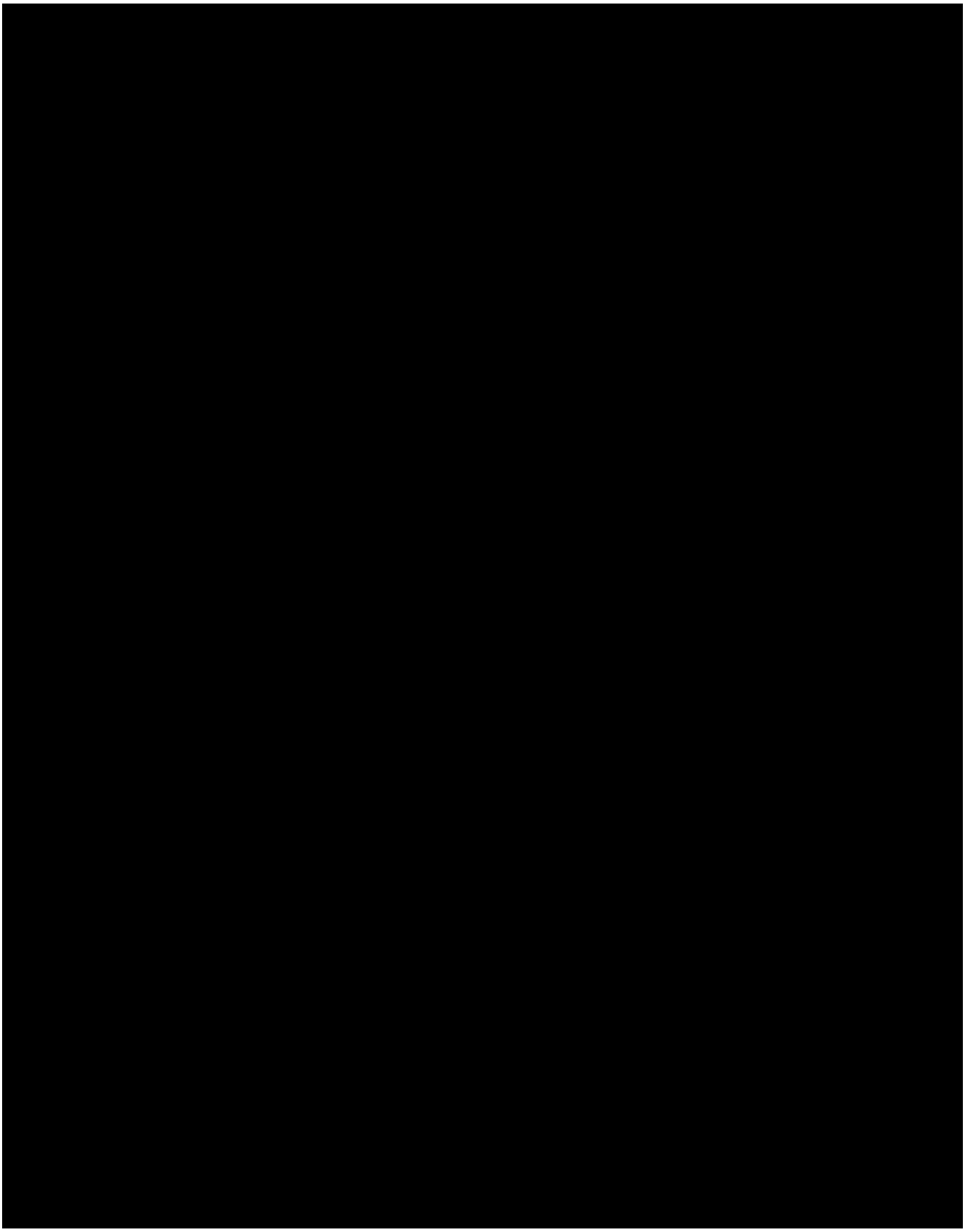

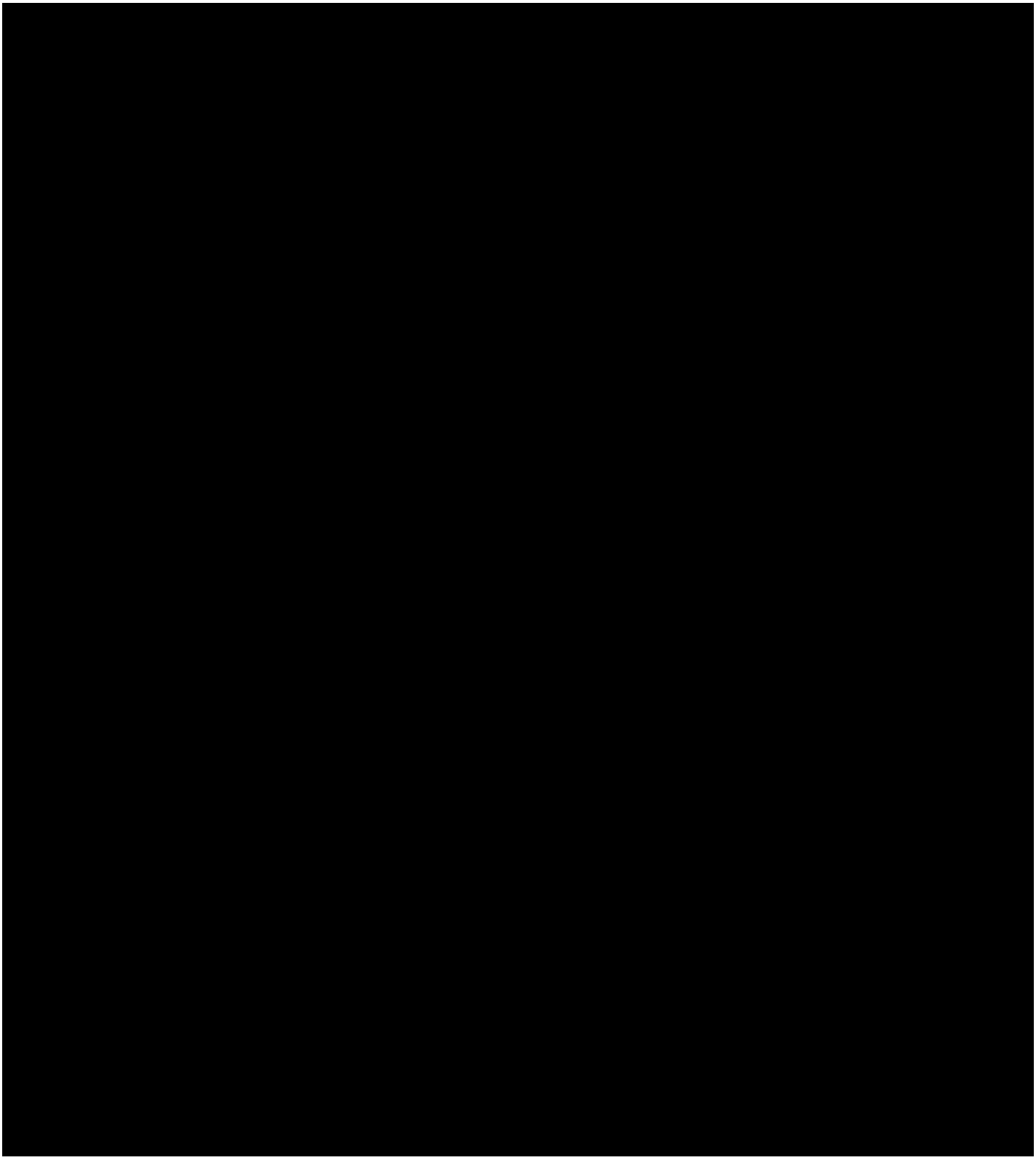

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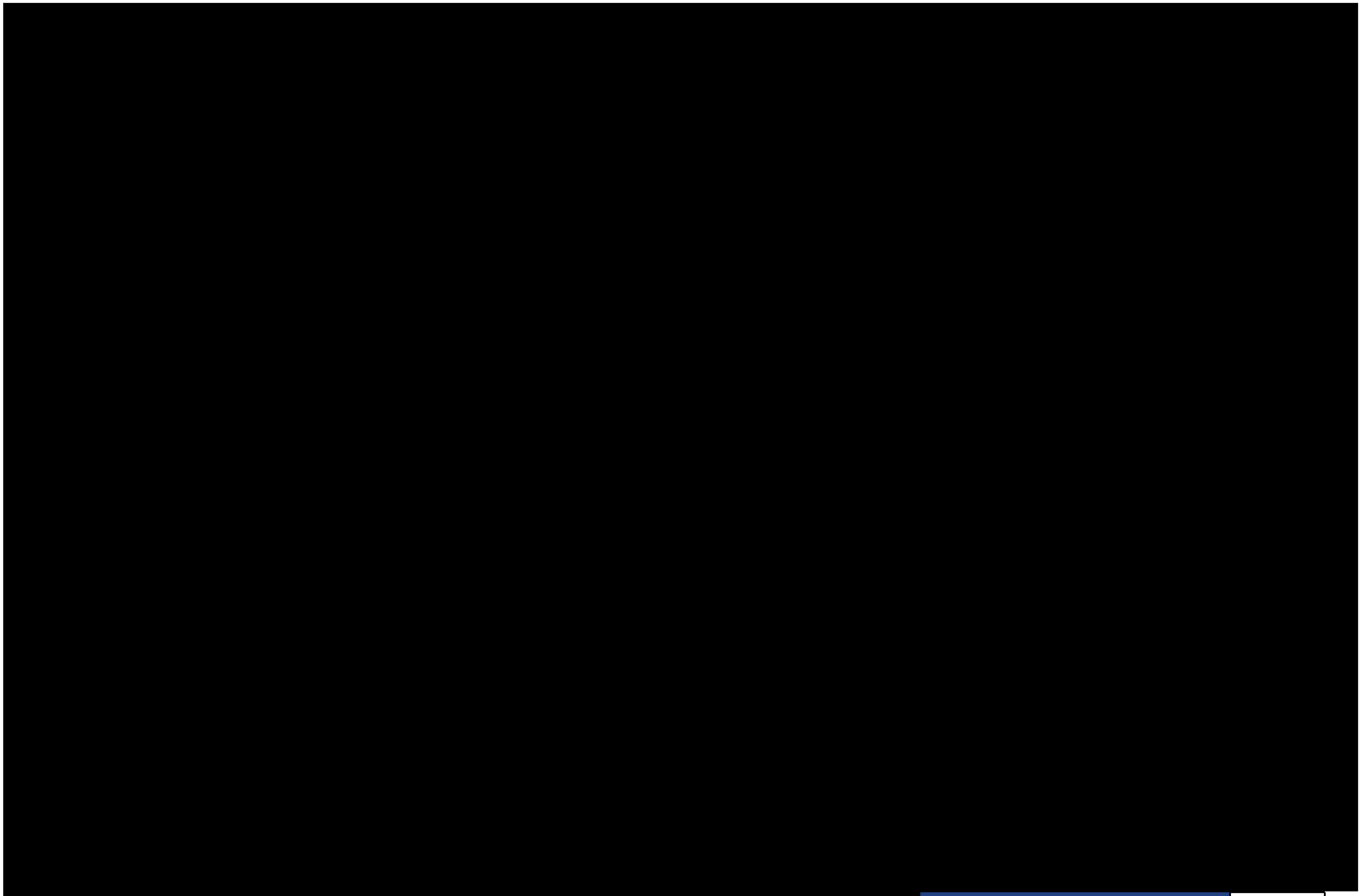
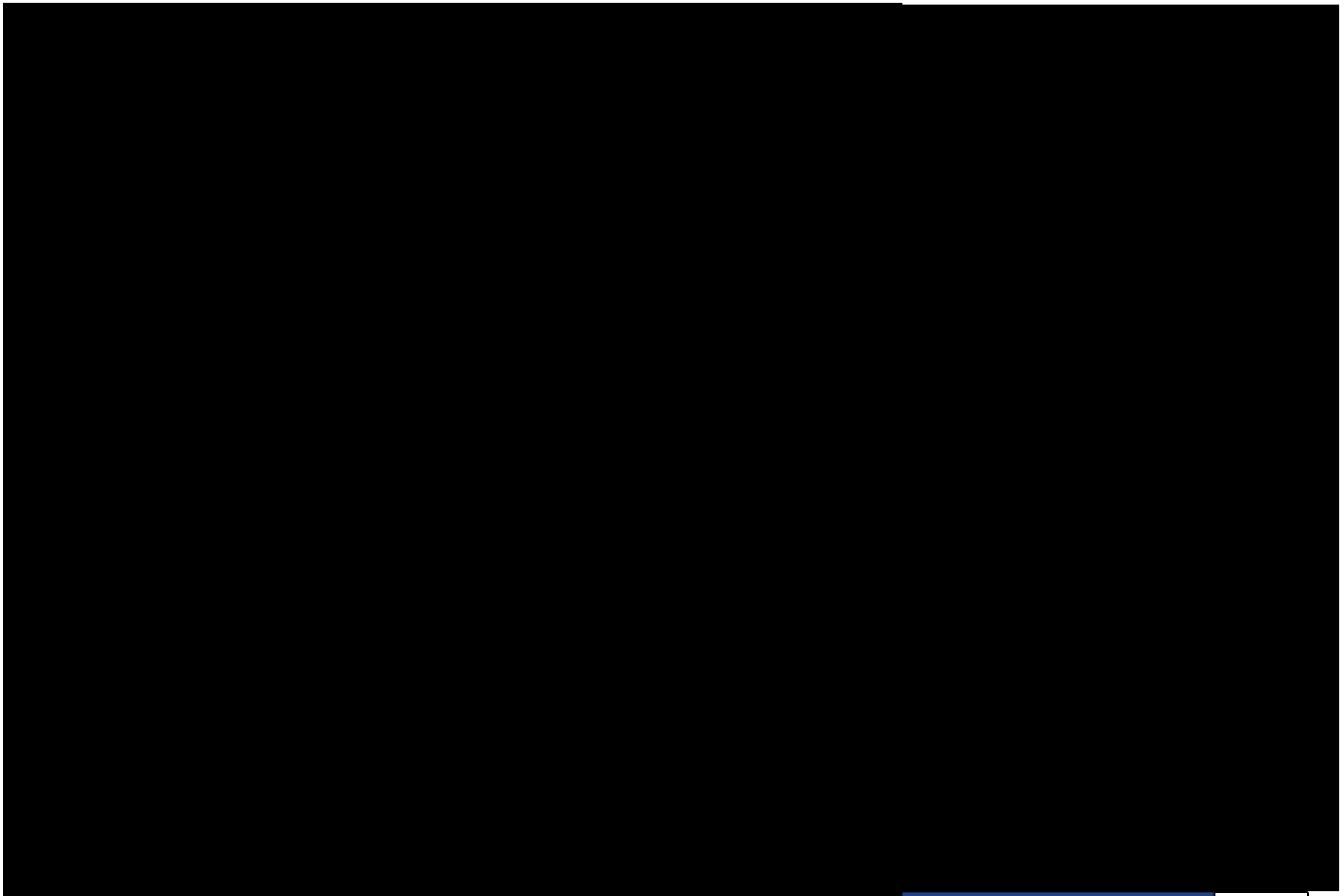


RIVER PARISH

RPS Project	July 2023	**Figure A.1.d-1**

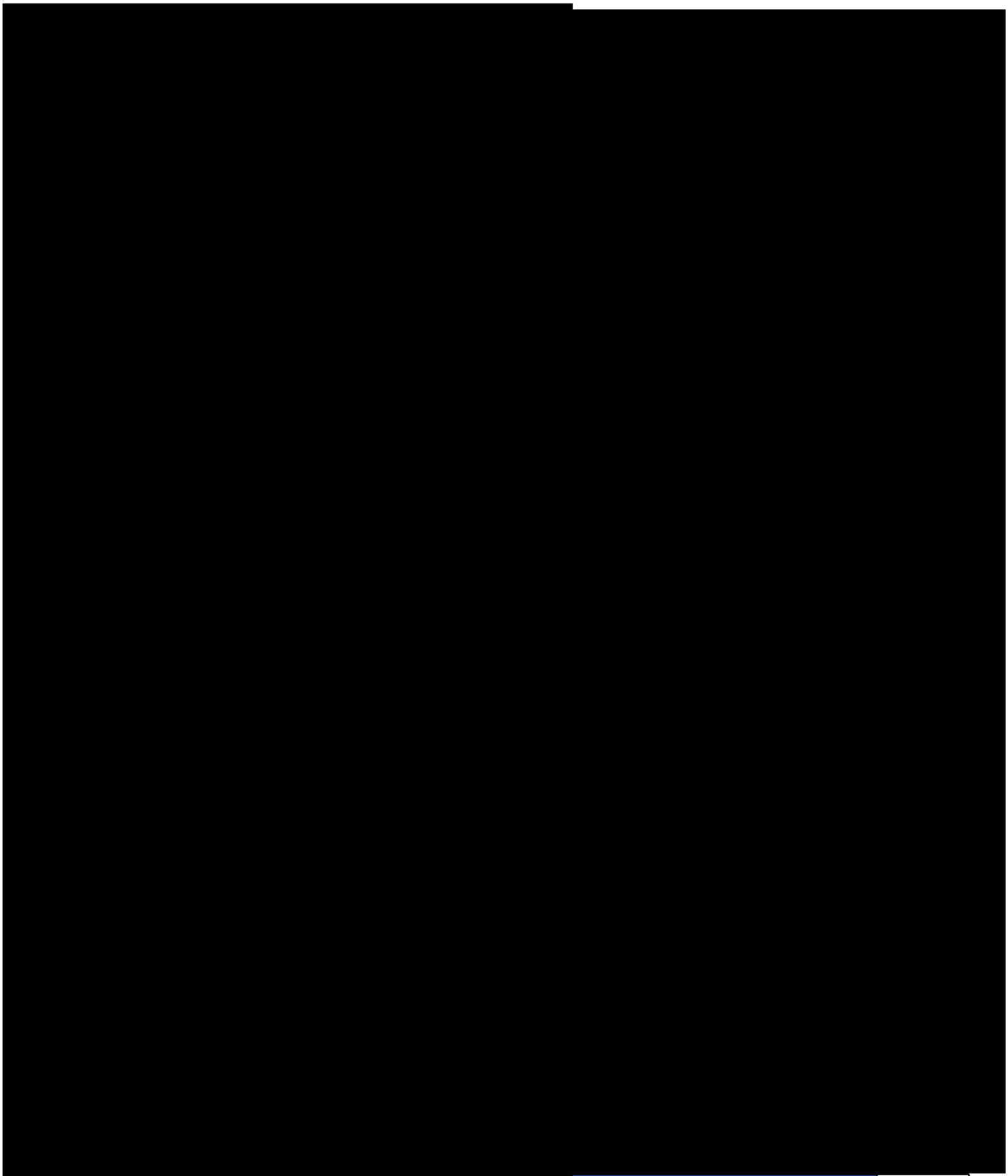
RIVER PARISH

RPS Project	July 2023	Figure A.3.b-1



RIVER PARISH

RPS Project	July 2023	**Figure B.9.b-1**

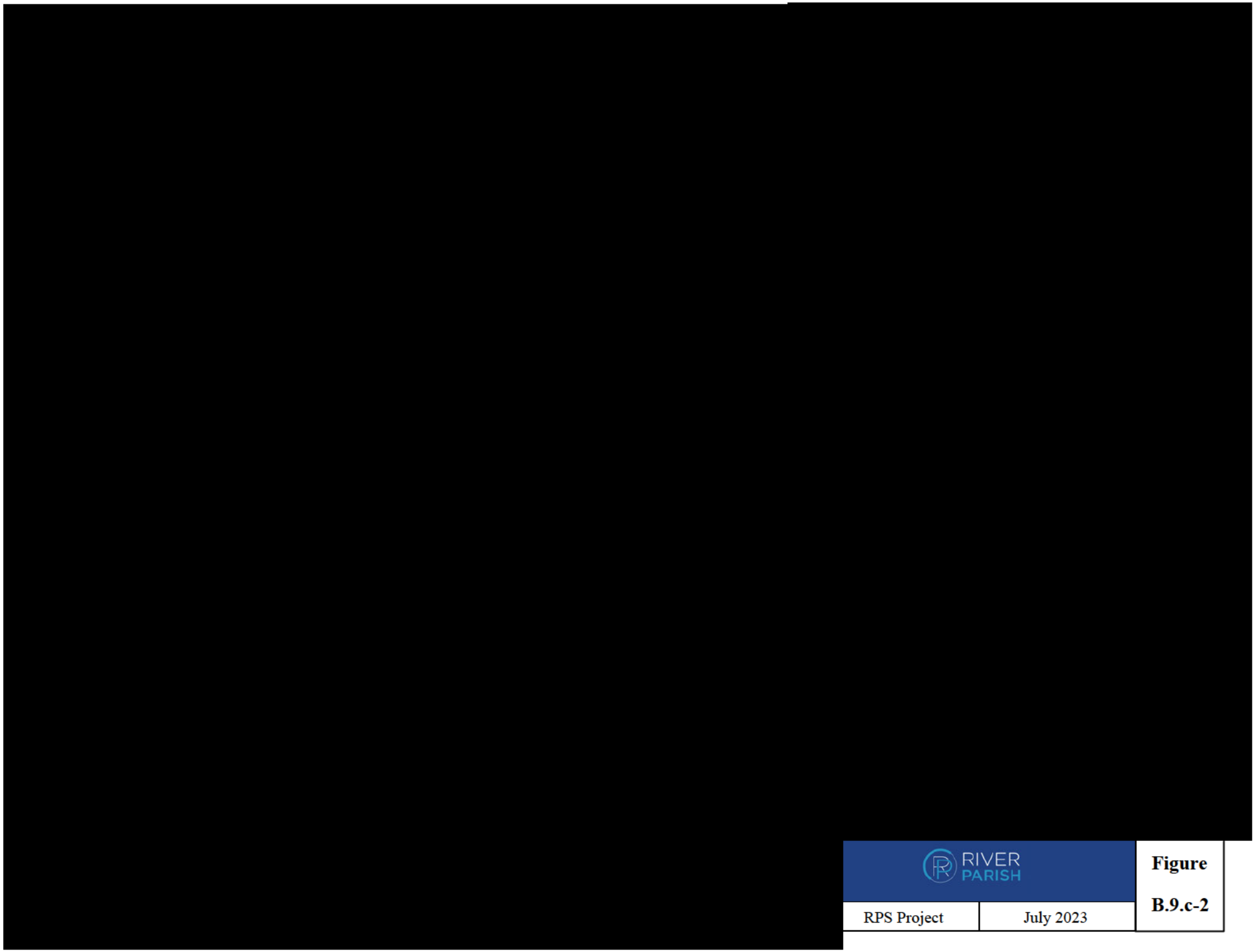


RIVER PARISH

RPS Project	July 2023	**Figure B.9.b-2**

RIVER PARISH

RPS Project	July 2023	**Figure B.9.c-1**



RIVER PARISH

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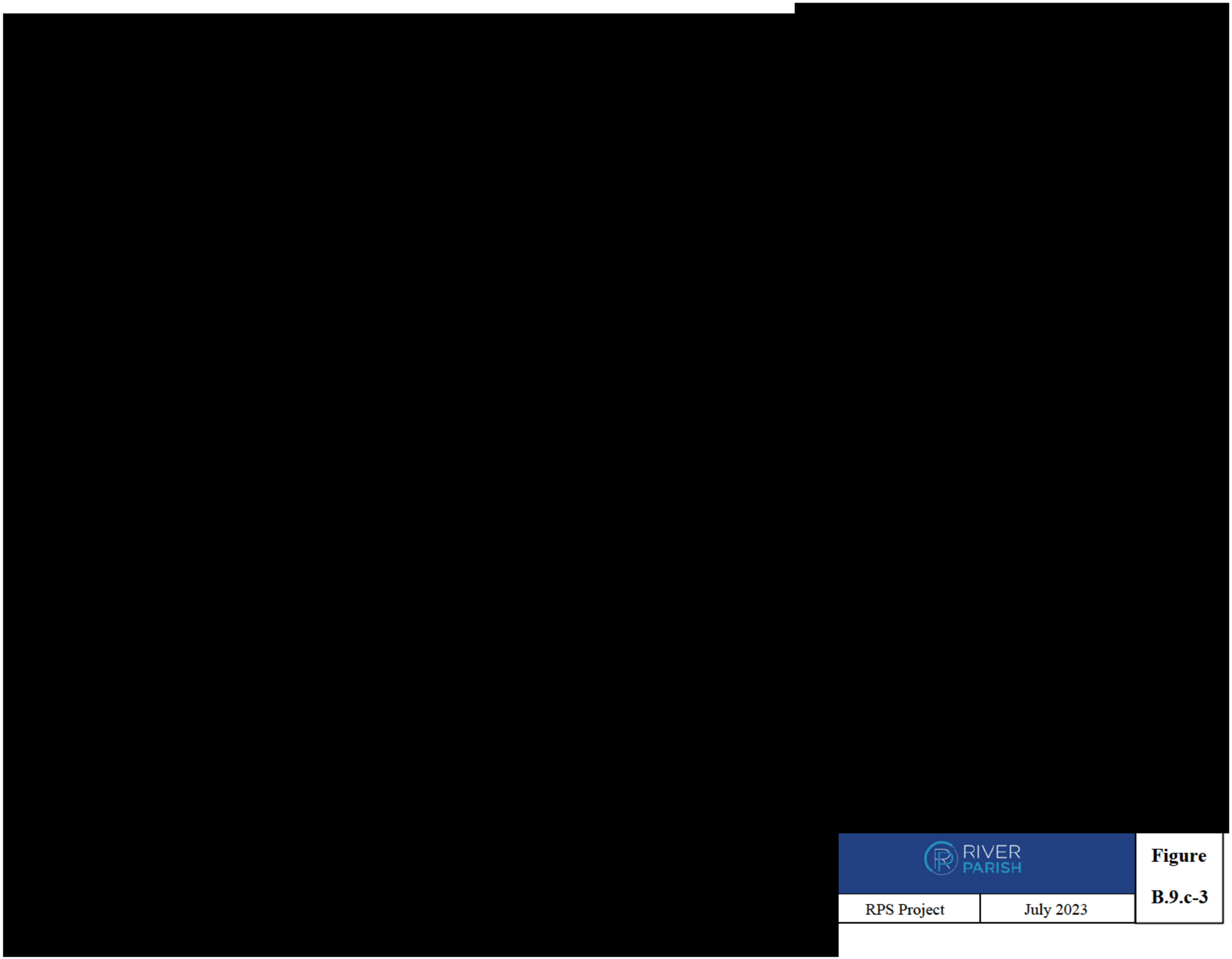

RIVER PARISH

RPS Project	July 2023	Figure B.9.c-3